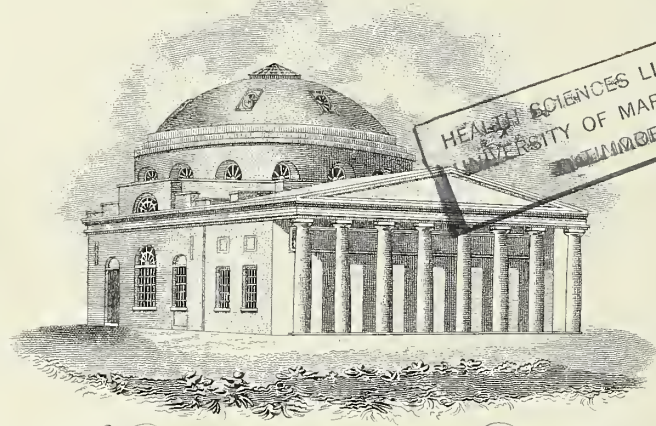




LIBRARY  
OF THE  
School of Medicine



University of Maryland









Digitized by the Internet Archive  
in 2016

<https://archive.org/details/journalofkansasm5111kans>





*The Journal*

OF THE

Kansas Medical Society

---

Published Monthly by

THE KANSAS MEDICAL SOCIETY

---

INDEX TO VOLUME LI

JANUARY, 1950, TO DECEMBER, 1950, INCLUSIVE



# Index to Volume LI

## ORIGINAL ARTICLES

Abdominal Aneurism: Presentation of a Case of Upper and Lower Aortic Aneurism of Different Etiology—E. M. Fillman, M.D., Topeka, Kansas .....	11-517
Angiomata of the Liver, Spleen and Mesentery: A Case Report—David M. Gibson, M.D., and William M. Wyatt, M.D., Kansas City, Kansas .....	9-417
Bilateral Popliteal Embolus: A Case Report—L. J. Hanis, M.D., Kansas City, Kansas .....	9-419
Care of Hand Injuries, The—Committee on Trauma, American College of Surgeons .....	1-4; 7-339; 10-474
Case of Muscular Dystrophy of the Facio-Scapulo-Humeral Type (Landouzy-Dejerine Syndrome) Associated with Hyperostosis Frontalis Interna with Accompanying Metabolic Disturbances—Phyllis J. Burdon, M.D., and Perry D. Petterson, M.D., Topeka, Kansas .....	8-375
Castration and Sex Crimes—C. C. Hawke, M. D., Winfield, Kansas .....	10-470
Clinical Evaluation of Adrenal Cortical Function, A—Robert E. Bolinger, M.D., Kansas City, Kansas .....	6-273
Coagulability of Blood After Operation—J. L. Morgan, M.D., Emporia, Kansas .....	12-553
Compound Injuries of the Hand Due to the Mechanical Corn Picker—Creighton A. Hardin, M.D., and David W. Robinson, M.D., Kansas City, Kansas .....	3-114
Diagnosis of Chronic Obliterating Peripheral Arterial Diseases—F. Stanley Morest, M.D., Kansas City, Missouri ..	5-230
Discussion of the Prognosis and Etiology of the Wolff-Parkinson-White Syndrome, A—Phyllis J. Burdon, M.D., Topeka, Kansas .....	6-279
Duplication of the Alimentary Tract: Report of One Case in the Small Intestine—G. F. Helwig, M.D., and W. M. Mills, M.D., Topeka, Kansas .....	2- 54
Duties of the Future Anesthesiologist—John W. Pender, M.D., Rochester, Minnesota .....	1-1
Effect of Aureomycin in Herpes Simplex Virus Infection—Samuel Zelman, M.D., and Robert H. O'Neil, M.D., Topeka, Kansas .....	5-237
Emergency Gastrectomy for Massive Hemorrhage from a Duodenal Ulcer: A Case Report—Edward S. Brinton, M.D., and Harold W. Palmer, M.D., Wichita, Kansas ..	9-424
Examination of the Abdomen—Philip Cooper, M.D., and Alfred H. Hinshaw, M.D., Wichita, Kansas .....	5-234
Fibrosarcoma—Robert Wright, M.D., Kansas City, Kansas ..	11-515
Fractures of the Femoral Shaft—Charles Rombold, M.D., H. O. Anderson, M.D., H. O. Marsh, M.D., and J. F. Lance, M.D., Wichita, Kansas .....	8-369
Hermaphroditism, A Case Report—Corbin E. Robison, M.D., and Edward H. Atkin, M.D., Hoisington, Kansas .....	2-60
Incidence and Titres of Agglutinins for Brucella Abortus and P. Tularensis in the Sera of 843 Students—Noble P. Sherwood, M.D., W. R. Miller, M.D., Cora M. Downs, Ph.D., and R. I. Canuteson, M.D., Lawrence, Kansas ..	1-6
Indeterminate Chest Lesion, The—John G. Shellito, M.D., Wichita, Kansas .....	11-512
Laboratory Methods of Interest to the General Practitioner—Lee H. Leger, M.D., Kansas City, Kansas .....	3-131
Lupus Erythematosus—Arthur R. Woodburne, M.D., and Osgood S. Philpott, M.D., Denver, Colorado .....	11-509
Management of Acute Head Injuries—American College of Surgeons .....	9-421
Management of Pregnancy in the Diabetic Patient, The—Thomas J. Sims, M.D., Kansas City, Kansas .....	2-56
Massive Gastro-Intestinal Hemorrhage in Pregnancy with Report of Case—R. H. Maxwell, M.D., and J. G. Kendrick, M.D., Wichita, Kansas .....	6-283
Medical Aspects of Atomic Explosion—Heinz Richard Landmann, M.D., Santa Fe, New Mexico .....	12-557

Multiple Unipolar ("V") Precordial Leads—D. R. Bedford, M.D., Topeka, Kansas .....	10-462
Penicillin Treatment of Cardiovascular Syphilis—Lloyd H. Coale, M.D., Max S. Allen, M.D., and Mahlon H. Delp, M.D., Kansas City, Kansas .....	3-102
Peril of the Sun Worshipper, The—Arthur R. Woodburne, M.D., and Osgood S. Philpott, M.D., Denver, Colorado ..	7-329
Poisoning Following Magnesium Sulphate Enema—Leslie L. Saylor, M.D., and Richard Greer, M.D., Topeka, Kansas ..	8-380
Present Status of Radioactive Isotopes in Medicine, The—Leonard A. Walker, Ph.D., Kansas City, Kansas .....	3-110
Primary Carcinoma of Intrahepatic Bile Ducts—R. Franklin Carter, M.D., New York, New York, and William A. Smiley, Jr., M.D., Junction City, Kansas .....	6-281
Primary Neurofibroma of the Vagina: A Case Report—James W. Norris, M.D., Columbus, Ohio, and Jack R. Cooper, M.D., Kansas City, Kansas .....	3-128
Pulmonary Moniliasis—William W. Abrams, M.D., Kansas City, Kansas .....	12-562
Recent Experiences with Gastric Malignancies—Kenneth C. Sawyer, M.D., and H. P. Marvin, M.D., Denver, Colorado ..	10-457
Rupture of Uterus: A Case Report—Cyril V. Black, M.D., Pratt, Kansas .....	8-382
Subacute Bacterial Endocarditis Due to Streptococcus Faecalis: Failure of Massive Prolonged Penicillin Treatment—A Case Report with Autopsy—Henry S. Dreher, Jr., M.D., Salina, Kansas .....	3-119
Surgical Treatment of Patent Ductus Arteriosus, The—John G. Shellito, M.D., Wichita, Kansas .....	7-337
Treatment of Far Advanced Malignancy: Report of Four Cases in Children—G. M. Tice, M.D., Kansas City, Kansas ..	5-225
Trichinosis with Report of a Case—James A. Wheeler, M.D., Newton, Kansas, and Wendell M. Tate, M.D., Peabody, Kansas .....	1-11
Tropical Disease Infections Among Veterans—Thomas T. Mackie, M.D., Winston-Salem, North Carolina .....	2-49
Tuberculosis in the Child—Jay L. Sitterley, M.D., Topeka, Kansas .....	5-239
Typhoid Fever Treated with Chloromycetin: Report of a Case—Robert L. Jensen, M.D., and William E. Spicer, M.D., Kansas City, Kansas .....	12-565
Use of Protein Bound Iodine as a Clinical Tool—William N. Harsha, M.D., Kansas City, Kansas .....	7-332

## EDITORIALS

ACTH .....	8-385
Aid to Medical Education .....	1-17
Antihistaminic Drugs .....	6-287
Cancer Research .....	11-521
Civilian Defense .....	10-477
Committees—1950-1951 .....	6-288
Common Cold, The .....	12-569
Directory of Physicians .....	5-242
Editorial in Nine Words .....	6-287
Federal Legislation .....	11-523
"Feel" of the Patient, The .....	11-522
Fight Against Political Medicine, The .....	8-386
Forensic Medicine .....	10-477
Freedom Crusade .....	9-430
Frightened Men .....	6-287
Good Citizenship .....	7-345
Graduate Education in Economics .....	8-385
Grievance Committees .....	5-241
Hassig, J. F., M.D., 1875-1950 .....	5-241



# Index to Volume LI

Income Tax Returns .....	1-19
Industrial Medicine in Kansas .....	1-18
Kansas Plan, The .....	5-429
Labor Viewpoint .....	11-522
Medical Student Loan Fund .....	7-345
Membership Dues .....	12-570
Mercy Killings .....	5-241
Merry Christmas .....	12-569
Mind Your Own Business .....	7-344
Murphy, Dr., Honored .....	2-64
New Drugs .....	2-63
Orr, Thomas Grover: Scholar, Surgeon, Samaritan.....	3-137
Our Debt to Jenner .....	9-427
Physicians' Fees .....	10-478
Postgraduate Education in Kansas .....	3-137
Second Annual Kansas Medical Day .....	2-63
Stand Up and Fight .....	2-64
Statistics in Medical Literature .....	7-343
Volume Fifty-One .....	1-17
Your Patronage Is Appreciated .....	9-429

## DEATH NOTICES

Anderson, Dr. Samuel Milligan .....	1-28
Attwood, Dr. John E. ....	5-254
Boese, Dr. Adolph .....	2-77
Boswell, Dr. James Henry .....	8-406
Conley, Dr. James George .....	12-582
Dean, Dr. George Roland .....	5-254
Elkins, Dr. William Henry .....	10-492
Foncannon, Dr. Frank .....	3-142
Ganoung, Dr. Edwin Grant .....	5-254
Grigsby, Dr. Clement E. ....	7-356
Grove, Dr. William Thomas .....	1-28
Hassig, Dr. John Franklin .....	5-254
Heaston, Dr. William Chamlin .....	5-254
Hutchison, Dr. Owen G. ....	6-318
Jenney, Dr. Charles Maxwell .....	7-356
Jones, Dr. Clem Hood .....	5-254
Kunce, Dr. Fay Edward .....	8-406
Lawrence, Dr. Charles Waddle .....	6-318
Lawrence, Dr. Edward King .....	5-254
Mabie, Dr. Lot Dalbert .....	6-318
Markham, Dr. Homer Everett .....	7-356
Markham, Dr. Robert Marion .....	3-142
McCarty, Dr. Claude E. ....	7-356
McManis, Dr. James Edwin .....	1-28
Nelson, Dr. Carl Ferdinand .....	7-356
O'Connor, Dr. Thomas Augustine .....	8-406
Patton, Dr. Chester Leroy .....	10-492
Pennington, Dr. James H. ....	5-254
Pile, Dr. Eugene .....	3-142
Randles, Dr. Herbert .....	12-582
Regier, Dr. Wilhem Edward .....	12-582
Reid, Dr. Turner Wilson .....	1-28

Seitz, Dr. George E. ....	11-540
Shepard, Dr. Chester Orville .....	12-582
Weaver, Dr. Ross Eberhardt .....	2-77
Wheeler, Dr. Howard M. ....	2-77
Wilson, Dr. Lawrence Smith .....	1-28

## MISCELLANEOUS

Abstracts from Current Literature.....	1-42; 2-94; 3-162; 5-260; 6-324; 7-358; 8-410; 9-450; 10-500; 11-548; 12-588.
Activities of Members.....	1-26; 2-76; 3-149; 5-250; 6-316; 7-352; 8-404; 9-442; 10-496; 11-538; 12-584.
Advertising Program of A.M.A. ....	7-349
Allergic Arthritis .....	3-158
Alumni Association Elects .....	11-534
American Board Examinations, Obstetrics and Gynecology..	4-220
American Congress of Physical Medicine .....	5-268
American Journal of Proctology Published.....	5-270
A.M.A. Meets in San Francisco.....	8-387
Anesthesiologists Name Officers .....	6-299
Announcements.....	2-98; 3-164; 4-220; 5-270; 6-328; 7-364; 8-414; 9-444; 10-506; 11-550; 12-594.
Annual Banquet .....	4-189
Award by K. C. Clinical Society.....	5-258
Award for Research on Infertility.....	7-351
Blood Research by Red Cross.....	9-444
Blue Shield.....	1-34; 2-66; 3-156; 5-244; 6-301; 7-351; 8-390; 10-454; 11-534; 12-580.
Blue Shield Relations Committee.....	8-391
Board Examinations Announced .....	7-364
Book Reviews.....	1-44; 2-92; 3-166; 5-264; 6-320; 7-366; 8-412; 9-452; 10-502; 11-544; 12-586.
Cancer Conference in Wichita .....	1-22
Cancer Grant to K. U. ....	8-391
Cancer Literature Available .....	6-322
Cancer Research Grant to K. U.....	5-248; 8-395
CARE Book Fund .....	8-389
Case Reports from the University of Kansas Medical Center...	1-24; 2-70; 3-143; 5-246; 6-302; 7-347; 8-392; 9-432; 10-484; 11-524; 12-576.
Change in K. U. Faculty.....	6-300
Chest Physicians to Meet .....	5-245
Comic Book Publicity .....	9-444
Committee Chairmen .....	4-176
Committee Reports .....	4-202
Congress on Obstetrics and Gynecology.....	1-32
Cortisone Now Available .....	8-406
Cosmetics Can Be Dangerous .....	3-147
Councilor Reports .....	4-194
County Societies.....	1-30; 2-77; 3-142; 5-245; 6-314; 7-356; 8-402; 10-492; 11-540; 12-586.
Course in Cytologic Diagnosis of Cancer.....	5-243
Course in Endocrinology and Diabetes .....	2-69
Course on Resuscitation .....	12-570
Cowley Society Meets .....	9-448
Cytologic Diagnosis of Cancer .....	1-36
Drugs Available for Seasickness .....	7-356
Editor Chosen for "GP" .....	5-243
Editorial Board Appointment .....	6-299
Error in Dosage .....	5-242; 10-480
Essays on General Practice .....	1-46
Externship Program at State Hospital.....	7-354
EENT Group Chooses Officers .....	6-299
Eye, Ear, Nose and Throat Section .....	4-186
Faculty Changes at K. U.....	7-346
Federal Assistance for Hospital Construction.....	3-166
Federal Grant to Kansas .....	2-78
Fellowship Program in Industrial Medicine.....	10-506
Fellowships Offered by A.C.P. ....	7-351

## Index to Volume LI

Film on Nation's Health Previewed .....	8-414	Omaha Clinical Society to Meet .....	10-480
General Practitioners Elect Officers .....	6-299	Optical Services Expanded .....	7-346
George Bernard Shaw's Socialism .....	11-552	Oregon Case Dismissed .....	11-532
Gift to K. U. Medical Center .....	8-383	Owen, Miss, Resigns .....	6-300
Goiter Association to Meet .....	2-78	Pathologists Meet at Wichita .....	6-299
Grant for Study of Water Pollution .....	3-162	Penicillin Useful in Cardiac Patients .....	9-430
Grant to K. U. Medical School .....	8-387	Plan for Confidential Birth Records .....	3-158
Grants Total \$138,726 .....	1-36	Plan for 91st Annual Meeting .....	1-22
Greetings .....	4-169	Plastic Surgery Award .....	7-364
Greetings from Franklin D. Murphy, M.D., Dean, University of Kansas School of Medicine .....	3-101	Policy on Military Hospitals Changes .....	10-488
Guest Speakers .....	4-170	Polio Grant of \$80,760 .....	2-78
Hawley, Dr., to A.C.S. ....	2-65	President .....	4-193
Health Education Services .....	8-351	President-Elect .....	4-193
Heart Grant to K. U. ....	5-270	President's Page..... 1-16; 2-62; 3-136; 4-192; 5-240; 6-286; 7-342; 8-384; 9-426; 10-476; 11-520; 12-568.	
Heart Research Grant to Kansas .....	5-242	Price of Cortisone Reduced .....	10-506
Illustrators' Directory Available .....	10-506	Psychiatric Society Elects .....	6-300
Inauguration Broadcast .....	7-351	Psychiatric Training in Topeka .....	8-406
Interns and Students Receive Journal .....	2-65	Radio Series Available .....	7-364
Invitation to Hawaii .....	2-66	Radiological Society Meets .....	6-299
Kansas City Clinical Society to Meet .....	9-387	Red Cross Accepts Military Request .....	10-492
Kansas Medical Assistants' Society .....	4-191	Report of Constitution and Rules Committee..... 2-79; 3-150	
Kansas Physicians' Service .....	4-218	Request from Board of Registration and Examination..... 5-258	
Kansas Press Looks at Medicine..... 1-38; 2-90; 5-256; 7-350; 8-408; 9-446; 10-498; 11-542; 12-		Research Building at Medical Center .....	9-448
Kansas Psychiatric Society Meets .....	1-36	Research Fellowship in Endocrinology .....	10-506
Kansas Section ACP to Meet .....	1-22	Research Fellowships by A.H.A. ....	9-430
Kansas State Board of Health..... 2-84; 3-148; 6-312; 8-396		Research Organization in Wichita .....	1-32
Kansas State Heart Program .....	2-68	Residency Training Requirements .....	1-36
Kansas Story in Look Magazine .....	9-440	Rural Practice Experience Required .....	1-32
Laboratory for Research Opened .....	7-350	Schedule of Events .....	4-177
Length of Life Increases .....	2-98; 3-158	Sectional Meeting of A.C.S. ....	10-506; 12-570
Liaison with Bar Association .....	8-391	Service Notes .....	9-440; 10-482; 11-536; 12-574
Life Insurance Fund for Heart Research..... 7-364		Seven to Medical School Faculty .....	5-248
Life Span Increases .....	5-270	Short Term Duty Available in Army .....	3-147
Low Infant Mortality Rate in 1948 .....	5-248	Socialized Medicine..... 1-21; 2-67; 5-243; 6-301; 7-341; 8-388; 9-431; 10-490; 11-536; 12-572.	
Medical Assistants in Annual Meeting..... 6-300		Society News Letter .....	2-65
Medical Assistants Meet .....	11-552	Specialty Publication for Neurologists .....	12-572
Medical Courses Interest Veterans .....	2-67	Sports Events at Annual Meeting .....	6-300
Medical Film Available .....	10-488	Squibb Provides "Video Medico" .....	7-366
Meeting of Society for Study of Sterility..... 1-32		State Board Elects Officers .....	7-362
Merger of Armed Forces Journals .....	1-20	Sterling Elects Dr. Hiebert .....	9-448
Mid-west Cancer Conference .....	2-66	Study of Bomb Survivors .....	7-349
Model Law for Mental Hospitalization .....	10-492	Survey of Blood Banks .....	8-395
Narcotics Violation .....	11-523	Survey of College Health Services .....	7-346
National Conference on Heart Disease .....	1-40	Survey of Grievance Committees .....	7-346
New Associate Editors .....	2-67	Survey of Laboratory Infections .....	9-456
New Doctors of Medicine .....	2-69	Survey of Membership .....	10-488
New Format for List of Medical Literature..... 7-364		Technical Exhibits .....	4-188
New Head of U.S.P. ....	2-67	Three Awards Announced .....	3-160
New Kansas Licenses Issued .....	8-383	Three to State Board .....	6-299
New Section in National Heart Institute..... 5-270		Trial of Penn Cancer Test .....	7-346
New Section on Cardiovascular Advances..... 7-362		Two Groups Merge .....	3-160
New Study of Heart Action .....	12-574	Two Special Courses at K. U. ....	8-389
Ninety-First Annual Meeting .....	2-53; 3-135	Ultra-High Penetrating X-ray Produced .....	7-349
Ninety-First Annual Session, Kansas Medical Society..... 6-289		Van Meter Prize Offered .....	9-456
Nuclear Study Available .....	8-402	Warns Against Overfeeding Children .....	3-160
Occupational Cancer .....	6-285	Weariness Symptom of Allergy .....	10-482
Officers for Kansas Division, A.C.S. ....	11-523	Woman's Auxiliary Elects Officers .....	6-288
Oklahoma City Clinical Society .....	10-480	Woman's Auxiliary to the Kansas Medical Society..... 4-190	

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

Owned and Published by The Kansas Medical Society

Volume LI

JANUARY, 1950

No. 1

## Duties of the Future Anesthesiologist

John W. Pender, M.D.\*

Rochester, Minnesota

The future is uncertain, and predictions about what will happen in the future can be determined only by reviewing the past. The direction of changes taking place in the present can then be projected into the future with some probability. The most certain prediction is that there will be changes. The practice of anesthesiology cannot remain static. It must progress or it will regress, and those who have decided to devote their lives to this branch of medicine are confident that the change will be in the direction of progress.

The rate at which knowledge about anesthesia and related fields is being gained would indicate that the duty of the future anesthesiologist in assimilating this knowledge and making it useful to his patients is going to be a tremendous task. Much study, thought and investigation will be necessary. It can then be assumed that the future anesthesiologist will be in duty bound to remain ever an open-minded student and to be willing to devote many hours to all the available sources of knowledge—new textbooks, current literature, medical meetings, postgraduate courses and so forth.

The anesthesiologist who assumes that he has gained recognition as a specialist and can now relax and utilize the knowledge that he has already acquired will soon become an unhappy member of a rapidly expanding specialty. As the specialty expands, it will become more and more complex by the employment of new procedures, new technics and new equipment.

The inadequacies of the agents used at present cause the search for new agents for anesthesia to be carried on continually. As the chemist and the pharmacologist discover new drugs and they become commercially available, it is the duty of the progressive anesthesiologist to study these drugs, to master the technic of their safe administration and to make their use available to his patients.

While curare is not an anesthetic agent, one of its most beneficial clinical uses has been in con-

junction with anesthesia. Even though a reliable preparation of curare has been available to the medical profession for only a few years, it has done as much to change our attitude toward, and our thinking about, anesthesia as any single group of agents in the history of the specialty. Now one can plan with confidence to carry a patient in a state of light general anesthesia with safe doses of a weakly potent anesthetic agent, and still to be able to give the surgeon adequate relaxation of the skeletal muscles of the patient.

Over such a short period as that during which this group of drugs has been available, it is not likely that the best agents or preparations for producing muscular relaxation have been discovered. First we had an extract of curare which had to be standardized by biologic methods. Then came preparations of the active principle d-tubocurarine chloride, the dose of which could be measured in milligrams. At present dimethyl ether of d-tubocurarine iodide is being investigated and has been reported to produce skeletal muscle relaxation comparable to that produced by regular d-tubocurarine chloride, but with the advantage of not causing as much interference with the mechanism of respiration.<sup>1</sup>

Another preparation called "myanesin" has been used to cause skeletal muscle relaxation during anesthesia with some reported success. While the claims of some of the English anesthesiologists concerning the use of this drug as an adjunct to anesthesia have not been substantiated in this country, myanesin is now available in tablet form (tokserol, Squibb) for peroral administration for its effect on the central nervous system in reducing exaggerated nerve reflexes. The search goes on, not only for newer and better agents for producing muscular relaxation, but also for general anesthesia, local anesthesia and premedication.

A new combination of old drugs sometimes gives a more efficient or safe preparation. The addition of 1/2 grain (about 0.032 gm.) of ipecac to each 1 1/2 grain (about 0.1 gm.) capsule of pentobarbital

\*Section on Anesthesiology, Mayo Clinic.



sodium (sed-ems, William A. Spencer, Inc., Chicago 14, Illinois) makes a preparation which is safe to prescribe in larger amounts than pentobarbital sodium alone. If through mistake or suicidal intent a patient takes a large number of the capsules the ipecac will cause him to vomit before all the excessive dose of the barbiturate is absorbed.

The advantages of new methods of administering old agents are constantly being expressed. The operating time under spinal anesthesia produced by single injections of isobaric procaine solutions was limited. The use of solutions with a specific gravity definitely less or greater than that of spinal fluid allowed the level of spinal anesthesia to be controlled by gravity and permitted the safer use of longer-acting local anesthetic agents. These agents had previously enjoyed only limited use as spinal anesthetic agents because the extent of the anesthesia produced had not been as controllable by diffusion as had the anesthesia following the use of procaine solutions.

The introduction of the continuous or intermittent technic of administering spinal anesthesia by either the malleable needle or catheter technic removed the limitation of short duration of anesthesia with the use of even a safe short-acting local anesthetic agent such as procaine. In the near future it is expected that an autoclavable plastic catheter will be available for use in continuous spinal anesthesia with the advantage that it may be disposed of after being used only once.

Another example of an old agent being used to added advantage when administered by a different method is procaine hydrochloride, which has long held a place of honor among the anesthetic agents for producing local anesthesia and is now being administered intravenously in dilute solution. Beneficial results following its intravenous use are being reported in conditions both associated and unassociated with anesthesia.

Most of the anesthetic agents employed heretofore have been of a chemical nature. It is within the realm of possibility that we are only now entering the age when anesthesia may frequently be produced by physical agents. The use of cold or cryo-anesthesia has proved beneficial in producing anesthesia for operations on the extremities in certain types of patients, especially debilitated patients with uncontrolled diabetes who require amputation of a leg. Many investigators have had minimal success in producing anesthesia with electricity but none have been able thus far to master the technic to such degree that the method is applicable to clinical use. Electricity as we know it may not be the ideal agent, and the advent of physical anesthesia may have to await the discovery of some other physical medium,

perhaps with a different frequency or wavelength.

Another duty of the future anesthesiologist will be the operation and interpretation of complex and complicated apparatus. The modern gas machine seems complicated to one not familiar with its use, but with understanding and practice its operation becomes almost second nature. In a similar way the future anesthesiologist will need to learn to operate other equally complex and even more accurate pieces of apparatus. Aids to help the anesthesiologist in knowing more exactly what goes on in the anesthesia machine and in the patient will make him able to accomplish a better job of producing anesthesia and protecting his patient.

Even today anesthesiology is comparatively an exact branch of medicine, since it involves the administration of potent and potentially dangerous drugs in doses with narrow limits. Still there is much to be known accurately, scientifically and objectively. From the flow meters on the machine the anesthesiologist may know the ratio of the gases being delivered from the tanks to the breathing bag, but once these gases have become mixed with the expired gases from the patient's respiratory tract, the anesthesiologist has only an approximate notion about the presence and concentration of the various gases in the breathing bag. Even less is known about the concentration of vapors which have been added to the mixture without flow meters. The main indication for changing the composition of the mixture being respired is the effect produced on the patient. Less expensive oxygen meters of the Pauling type are becoming available so that the tension of oxygen in the gas mixture can be determined easily and quickly at any time. Faulconer<sup>2</sup> and Ridley<sup>3</sup> have devised an acoustic gas analyzer to give continuous readings of the composition of the anesthetic gases and ethyl ether in the anesthesia machine.

Whereas the signs of the different stages of the depth of anesthesia have been definitely catalogued according to the presence or absence of certain nerve reflexes, these signs are variable from agent to agent, from patient to patient and when interpreted by different anesthetists. Too often the anesthetist has to rely more on his sixth sense for judging the depth of anesthesia than on the presence or absence of a definite nerve reflex of the patient.

The use of the electro-encephalogram is showing some promise of affording a means of objectively determining the depth of anesthesia. Courses in the operation of the electro-encephalograph and the interpretation of the electro-encephalogram have not been in the past standard in the curriculum during training in anesthesiology. The same might be said about the electrocardiograph and the oximeter. At

present these are strange and little-known machines in the operating room, but if their use should become routine procedure the duties of the anesthesiologist would be greatly increased. More knowledge and training, especially in biophysics, will be necessary before such apparatus can be intelligently operated and the information obtained can be correctly correlated.

While the technic of administration of anesthetic agents always has been, and perhaps always will be, important to the anesthetist, technic is having to share its importance more and more with other abilities of the anesthesiologist. No longer does the operating theater form the boundaries of the influence of the anesthesiologist. His duties are expanding to include more and more of the differential diagnosis and general care of the patient. This expansion is not a conflict or competition with the services of other specialists, but through co-operation and an understanding of each other's problems the abilities of the anesthesiologist can be co-ordinated with those of other fields of medicine to afford more effective and less uncomfortable care to the patient.

The demands on the surgeon by modern surgical technics and the fact that the surgeon must remain in sterile attire have led the anesthesiologist to share in the responsibility for the safety and general care of the patient while he is in the operating room. The anesthesiologist's use of the laryngoscope and endotracheal anesthesia has led into the field of peroral endoscopy so that whenever tracheobronchial aspiration is indicated during or immediately after the operation, he is frequently expected to do the bronchoscopic examination and aspiration.

The anesthesiologist is usually expected to see the patient at some time before the day of operation in order to review the general history and especially that part of the history concerning previous operations and anesthesia. To judge the physical status and condition of the patient intelligently the anesthesiologist must be able to interpret the varied laboratory procedures which have been performed and to order those to be done which are indicated for a more intelligent administration of the anesthetic agent which he has chosen for the scheduled operation on that individual patient.

It is becoming more and more the duty of the anesthesiologist to order the premedication so that it may be co-ordinated with the anesthesia which has been planned. The institution of post-anesthesia rooms in many hospitals for the purpose of giving the patients better care with less personnel has given the anesthesiologist the duty of supervising the immediate postoperative care of the patients.

His knowledge of hypoxia and experience in the administration of oxygen have caused the anesthesi-

ologist to be chosen to supervise the department of oxygen therapy in many institutions. His experience in caring for unconscious patients and in administering sedative drugs can be of invaluable help to the clinician in treating comatose, delirious or convulsed patients.

Since the anesthesiologist is almost daily concerned in the care of patients in whom the syndrome known as shock is at least potentially likely to develop, he can also justly be expected to share in the care and treatment of patients in a state of shock from causes not associated with surgical operation or anesthesia. This causes him to be regarded as a specialist in parenteral therapy.

Whether he is responsible for the operation of a blood bank or not, he is very likely to be given the duty of supervising the administration of blood by transfusion during the surgical procedure and while the patient is anesthetized. If he is to do this intelligently it will be necessary for him to understand the many rapid advances being made in the field of hematology concerning blood groups, sub-groups, Rh, Hr, agglutinins, congenitins, specific factors, and so forth.

Many interesting and important advances are being made in preparation of blood fractions and plasma substitutes. Irradiated plasma is thought to be free of the infectious viral agent causing occasionally fatal hepatitis known to have been transmitted by the old type of pooled plasma. Dextran, a large molecule polysaccharide in six per cent solution in physiologic saline, has proved useful as a plasma substitute in Sweden, England and this country. Periston is a resin, polyvinyl pyrrolidone, which in 2.5 to 3.5 per cent solution in modified Ringer's solution was used extensively by the Germans during World War II when blood and plasma were not available.

The ability of the anesthesiologist in producing local anesthesia has made him the logical member of the medical team to perform diagnostic and therapeutic blocks on medical and surgical patients. The success of the blocks depends on more than the technic of performing the block and the determination of whether the pain was relieved or not. The anesthesiologist must become acquainted with the patient, and get a history of the character, duration and location of the pain as well as some idea of the patient's emotional stability. During the block the patient's reaction to the needle pricks will give some indication of the severity of the original complaints of pain. Paresthesias produced on the insertion of the needle or the injection of such a solution as dolamin permit the localization of the nerve pathways over which the painful impulses are being transmitted. The occurrence and duration of relief



of pain only confirm the data already accumulated by the anesthesiologist. The exact location of the needles near the nerves over which the pain is being transmitted must be confirmed roentgenographically if subsequent procedures such as injection of alcohol or nerve section may be indicated. This adds the duty of learning to interpret roentgenograms, as does the responsibility of sharing in the diagnosis and treatment of pulmonary complications following anesthesia and surgical procedures.

If the anesthesiologist can prove the value of his knowledge, training and ability and can show his colleagues that he is able to understand their problems and is willing to share their responsibilities, he will be considered a valuable consultant. These duties of the future anesthesiologist in participating in so many fields of medicine and learning to use

many new anesthetic agents, methods and instruments will not be easily met. Each anesthesiologist must be willing to contribute his share of thought and study as well as to make use of the thought and study of others which have been acquired through a free exchange of ideas. It is as true of the future of anesthesiology as any other field of medicine that "the danger of specialization lies not in the narrowness of the field but in a sense of self-sufficiency."

#### References

1. Stoelting, V. K., Graf, J. P. and Vieira, Z.: Preliminary Study of Dimethyl Ether of d-Tubocurarine Iodide. *Quart. Bull. Indiana Univ. M. Center.* 10:71 (Oct.) 1948.
2. Faulconer, Albert, Jr.: A Study of Physical Methods for the Determination of Ether Vapor Tension in Air-ether Mixtures. *Anesthesiology.* 10:1-4 (Jan.) 1949.
3. Ridley, R. W.: Concentration of Oxygen, Nitrous Oxide and Ether and Their Correlation With Certain Physiologic Variables During Surgical Anesthesia in Man. Thesis, Graduate School, University of Minnesota, 1948, 99 pp.

## The Care of Hand Injuries\*

Prepared by Committee on Trauma  
American College of Surgeons

### Lacerated Wounds

#### *Protection of the Hand.*

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function. No attempt should be made to examine, cleanse, or treat the wound until operating room facilities are available.

#### *Requirements of Early Definitive Treatment.*

Early definitive care requires thorough evaluation of the injury with respect to its cause, time of occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking the definitive treatment the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia, and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, and the repair of injured structures, to be followed by protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation dur-

ing healing, and early restoration of function by directed active motion.

#### *Lacerated Wounds.*

Lacerations may damage skin, fat, fascia, muscles, tendons, tendon sheaths, blood vessels, nerves and, more rarely, joint or bone. The treatment of such injuries has four objectives:

1. Protection from infection; 2. restoration of structures; 3. avoidance of deformity; 4. Early restoration of function.

These objectives are furthered by proper first-aid care and by definitive treatment.

#### *Definitive Treatment.*

To be undertaken only under the proper conditions and according to principles previously outlined. Careful history of the injury should be followed by examination of the hand to determine:

1. Location and extent of the wound; 2. source of major bleeding; 3. presence of foreign material; 4. function of tendons, to be tested *against resistance*; 5. function of intrinsic muscles; 6. condition of nerves as regards both sensory and motor functions; 7. integrity of bone and joint.

Following anesthetization of the patient and application of hemostatic blood pressure cuff (not to be inflated above 300 mm.), definitive treatment of the wound consists of:

1. Thorough cleansing of wound region and then of entire hand and forearm with soap and water or bland detergent; 2. removal of foreign material from

\*Supplementing "Principles of Early Management of Hand Injuries," October, 1949, issue, Journal of the Kansas Medical Society.



the wound; 3. careful, gentle, thorough, but conservative excision of devitalized tissues, sparing all structures that may survive; 4. repeated cleansing of wound by irrigation with warm normal saline solution; 5. securing and ligation of divided blood vessels.

These general measures are followed in appropriate cases by repair of damaged structures. Proper wounds for this repair are:

1. Those in which infection has not become established; 2. those not grossly contaminated by highly infective material; 3. relatively clean wounds not more than three or four hours old.

In general, wounds not fulfilling these criteria are better left unrepaired to await secondary closure and later reconstructive surgery. They should, nevertheless, be as carefully cleansed of foreign matter and dead tissue as are those prepared for primary closure. In such cases severed nerve ends may be identified with nonabsorbable sutures or lightly united.

#### *Repair of damaged structures:*

##### NERVES

1. All severed nerves should be repaired, including the digital nerves.

2. Fine arterial silk on fine needles should be used, accurately approximating the nerve ends by small interrupted sutures placed around the periphery. These sutures should include only the perineurium, not the nerve bundles. It is important to avoid axial rotation, particularly in nerves having both motor and sensory function.

3. Nerves are to be distinguished from tendons, especially at the wrist, by their anatomical position, softer texture, pinker color, small surface capillaries, and distinct nerve bundles seen on cut ends. Pulling on a nerve will not flex a finger.

4. Nerves should be handled gently, never crushed, rubbed, or allowed to become dry.

##### TENDONS

1. All severed tendons should be repaired, including the tendons of intrinsic muscles. An important exception to this rule concerns flexor tendons severed within the flexor sheath or in the digital flexor canal. Primary suturing of the flexor profundus in this location rarely succeeds in restoring useful function even if the flexor sublimis is removed. Suturing both flexor sublimis and profundus in this area almost invariably results in failure. Should even minor infection occur, failure is assured. With rare exceptions, it is sound practice to repair the skin and digital nerves only, leaving the flexor tendons for secondary reconstruction when severed in this region.

2. Nonabsorbable sutures of silk or wire are used accurately to approximate the severed tendon ends

after they have been cleanly squared off with a sharp knife.

3. Additional incisions to secure retracted tendon ends should follow flexion creases. They should be curved or transverse, never longitudinal, and never in the palmar or dorsal midline of a finger.

4. Tendons should be handled gently; never crushed, rubbed, or allowed to become dry.

##### MUSCLE

1. Severed muscles should be lightly approximated with interrupted mattress sutures, avoiding tension and constriction.

2. Muscle thus repaired should be alive, contractile and vascular, all devitalized shreds being trimmed away.

Following these procedures, the hemostatic blood pressure cuff is released to permit identification, control and ligation of bleeding vessels. The field should be dry before closure of the wound.

##### FASCIA

Severed fascial and ligamentous tissue should be repaired with interrupted mattress sutures, avoiding tension.

##### SUBCUTANEOUS TISSUE

Subcutaneous fatty tissue may be lightly approximated with interrupted fine sutures.

##### SKIN

The skin should be closed with fine, nonabsorbable sutures.

##### DRESSING

Firm pressure dressing is applied, the fingers being separated, with gauze between them. The hand is immobilized by splinting in the position of function, except when suture of severed tendons requires splinting in a position to insure the least strain on their suture lines. If nerves have been severed, the position of function is particularly important to prevent deformity due to contracture of active muscles when their opponents are denervated and paralyzed.

##### *Aftercare.*

1. Antibiotics and tetanus antitoxin (or toxoid) are administered systematically as prophylaxis against infection.

2. The extremity is kept elevated for the first three or four days.

3. Dressings are not removed for several days, usually one week, unless infection develops.

4. The healing of severed tendons and nerves requires three weeks of uninterrupted immobilization.

5. When nerves are severed, corrective splinting is necessary until reinnervation of paralyzed muscles has occurred.

6. Restoration of function is best secured, after healing, by directed voluntary exercise and appropriate occupational therapy.

# Incidence and Titres of Agglutinins for *Brucella Abortus* and *P. Tularensis* in the Sera of 843 Students \*

Noble P. Sherwood, M.D., Cora M. Downs, Ph.D., W. R. Miller, M.D., R. I. Canuteson, M.D.\*\*

Lawrence, Kansas

Brucellosis, being a mimic disease, is difficult to diagnose unless blood cultures are positive. The physician almost always asks for the agglutinin titre in suspected cases of brucellosis or tularemia. Spink (1948)<sup>1</sup> states that "...active brucellosis is usually associated with titres of one to 100 and greater." In a personal communication he defines the term "titre" as the highest dilution of the patient's serum giving complete agglutination of a satisfactory antigen. While there are reports in the literature of titres of routine Wassermann sera and of sera of patients suffering from diseases other than brucellosis or tularemia, there appears to have been no study made that involved a large group of healthy individuals and which included medical histories, complete physical and laboratory examinations and a four-year period of observation. Furthermore, it will be seen from a perusal of the paragraphs to follow that the term "agglutinin titre" of a serum is used by some to indicate the highest final dilution of the serum giving definite agglutination while others define the "titre" as the highest dilution giving a 4+ reaction and in some instances as a 3+ or 4+ agglutination. The present paper represents the results of a study of the sera of 843 apparently healthy students entering the University of Kansas. Careful histories and physical examinations were made on each student and their health records observed for four years.

In an interesting monograph on undulant fever, Hardy, Jordan, Borts, and Hardy (1932)<sup>2</sup> call attention to the variation in agglutinin titre for *Brucella abortus* in sera of selected groups in Iowa and Chicago. They studied 1000 routine Wassermann sera in Iowa and found 57.3 per cent had no titre for *Br. abortus*, 19.4 per cent had a titre of 1:5, 13.0 per cent a titre of 1:10, 9.0 per cent a titre of 1:20, 1.1 per cent a titre of 1:40, and only 0.1 per cent had titres of 1:90 and 1:160 respectively. In contrast to these findings they report that a study of 357 routine Wassermann sera from Chicago yielded 90.4 per cent negative, 5.8 per cent positive in 1:5 dilution, 2.3 per cent positive in 1:10, 2.3 per cent positive in 1:20, and 1.5 per cent positive in 1:40 dilutions respectively. The maximum titres

they report represent either complete or almost complete agglutination.

Evans (1938)<sup>3</sup> reported that a study of the sera of 316 patients, all with diseases other than brucellosis, showed that 68.8 per cent contained no agglutinins, 13.6 per cent had titres of 1:10, 12.6 per cent titres of 1:20, 3.2 per cent titres of 1:40, and 6 per cent titres of 1:80 or higher. She reported that the sera of 84.6 per cent of 26 healthy subjects contained no agglutinins, 7.7 per cent had agglutinin titres of 1:10 and 1:20 respectively. None had titres above 1:20. Evans concludes that only agglutinin titres of 1:40 or higher are of diagnostic importance. Whether the titres reported by Evans represent the highest dilutions showing positive agglutination or whether they represent the highest dilution giving complete or almost complete agglutination is not stated in her report.

Dooley (1932),<sup>4</sup> Menefee, and Poston (1939),<sup>5</sup> and Borts (1945)<sup>6</sup> claim that fever due to any cause may increase agglutinins against *Br. abortus*. Harris (1947),<sup>7</sup> however, offers evidence to show that the results reported by Dooley and also by Menefee and Poston can be explained as due to either previous infection or injection of brucellergen. Several workers, notably Wong and Chow (1937)<sup>8</sup> and Eisele, McCullough, Beal, and Rothschaefter (1947)<sup>9</sup> report that *Brucella* agglutinins in significant titres develop in individuals following the administration of cholera vaccine or from infection with *Vibrio comma*. They state, "In the entire series, 54 per cent showed positive agglutination in dilutions of 1:20 or higher, 41 per cent in dilutions of 1:40 or higher, and 20 per cent in dilutions of 1:80 or higher." Their series consisted of 100 cholera vaccinated military personnel. The titres they report apparently indicate the highest dilution of an individual serum that causes positive but not necessarily complete agglutination. The latter authors claim that an antigenic factor in members of the *brucella* group is identical with an H antigen of *Vibrio comma*.

When one attempts to explain the presence of agglutinins in a normal, healthy individual a number of possible assumptions present themselves: (1) the specific antibodies might be a normal physiological product such as the A and B isohemagglutinins; (2) they might be the result of previous clinical or subclinical infection; (3) they could be

\*Presented before the Kansas Branch of the American Public Health Association Annual Meeting at Topeka, Kansas, April 15, 1948.

\*\*From the Department of Bacteriology and the Student Health Service, respectively, of the University of Kansas.



present as a result of vaccination with the specific organism; or (4) the antibodies might result from vaccination or infection with an organism containing an antigenic factor identical with the principal antigen of the specific organism in question or from absorption of bacterial protein from the intestinal tract.

In the case of Brucella agglutinins it is generally assumed that their presence in a human serum results from one of the following:

- a. Present or previous infection.
- b. Subclinical infection.
- c. Absorption of brucella antigen from raw or pasteurized milk without infection.
- d. Injection of brucellergin or a brucella vaccine.
- e. Infection with *P. tularensae*, *V. comma*, or some other organism.
- f. There is the possibility that normal physiological processes may account for the presence of certain antibodies.

Much of the published data relative to the incidence and titre of agglutinins for *Br. abortus* was obtained from studies of sera being routinely tested for syphilitic reagin or antibodies associated with diseases other than brucellosis.

Such data, though of value, is not correlated with histories, physical findings, clinical observations, and laboratory findings other than for brucella agglutinins.

In 1938, Sherwood, Bond, and Canuteson<sup>10</sup> made a study of the incidence and titres of reagin in the blood of over 1,000 students entering the University of Kansas. Careful histories, physical examination, and routine laboratory examinations were made on each student. Since most of these students were freshmen ranging in age from 17 to 20, it was possible to follow the health record of most students having detectable amounts of reagin in their blood for a period of four years. Because of the war, publication of these results was delayed. In carrying out the project on reagin, large enough samples of blood were obtained from as many students as possible to permit rechecking of reagin titre and make available

sera for this study on brucella and *P. tularensis* agglutinins. Originally it was planned to publish the data obtained after following the health records of all whose sera contained agglutinins for the duration of their attendance at the university, which for most was four years.

The present paper contains data relative to the incidence and titres of agglutinins for *Br. abortus* and *P. tularensis* in the sera of 843 students entering the University of Kansas who were examined and observed for a period of approximately four years.

#### Materials and Methods

##### Antigens:

The brucella antigen employed was the Huddleson Standard Antigen obtained from his laboratory.

The *P. tularensis* antigen was prepared by Downs.

Undiluted and serial dilutions of the sera ranging from 1:10 to 1:5560 were made up in Wassermann tubes. Both saline suspensions of the organisms and saline serum controls were included.

All tests were incubated for four hours in a water bath at a temperature of 37°C. After incubation, one series was allowed to stand in the refrigerator over night at 6°C to 8°C. Readings were made by three people, employing the Kahn slit lamp and the concave mirror.

A second and third repeat series was run. In these the tubes were incubated for four hours in a water bath at a temperature of 37°C. Readings were made immediately and the tubes centrifuged for five minutes at a speed of 825 R.P.M. in a horizontal centrifuge with head of 16½ inches or 21 inches to end of cups.

The tubes were removed and resuspension accomplished by gentle tapping or shaking of the tubes. The results of these two series correlated well.

#### Results

Since the term titre of brucella agglutinins is used by some to indicate the highest dilution giving definite or 1+ agglutination and by others to mean the highest dilution giving almost complete or complete agglutination and recorded as 3+ or 4+

TABLE I  
TITRES FOR BRUCELLA ABORTUS  
BEFORE AND AFTER RESUSPENSION

	0	1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280	1:2560
<i>Before</i>	710 (84.2%)	65 (7.71%)	42 (4.98%)	19 (2.25%)	3 (0.35%)	2 (0.24%)	1 (0.12%)	0	0	1 (0.12%)
<i>After</i>	598 (72.1%)	88 (10.43%)	64 (7.59%)	60 (7.12%)	22 (2.61%)	8 (0.95%)	1 (0.12%)	1 (0.12%)	0	1 (0.12%)

In this Table the Term "Titre" Refers to the Highest Dilution of Serum Giving at Least a 1+ Agglutination.

reactions our data has been tabulated to show both end points.

An inspection of Table I shows that 133 sera gave definite agglutination after four hours at 37°C. This number was increased to 245 after centrifuging and resuspending. One will note that there were 93 sera with titres of 1:40 or higher and 33 with titres of 1:80 or more after resuspension.

Perhaps the most interesting observations were that three sera had titres of 1:320, 1:640, and 1:2560 respectively. All of these titres are expressed in terms of the highest dilution giving at least a 1+ agglutination.

In Table II one sees a breakdown of the data in Table I where 13 of the sera gave 3+ or 4+ reactions in the highest reacting dilution while one serum gave a 2+ agglutination in a dilution of 1:2560 after resuspension.

We would like to refer those who prefer to define the titres as the highest dilution giving 4+ or 3+ reactions to Tables III and IV respectively. An inspection of Table III shows that 14 sera had titres (4+) varying from 1:40 to 1:1280; seven of these were titres of 1:80 or more. Table IV shows that 14 sera had titres (3+) of 1:40 or higher. Ten of these were 1:40, three were 1:80 and one had a titre of 1:160. The titre of one serum that was 3+ at 1:1280 before resuspension changed to a 4+ after

resuspension.

In Table V we have combined the number of sera giving 3+ and 4+ reactions where 27 sera had titres varying from 1:40 to 1:1280. Ten of these had titres of 1:80 or higher. It is interesting to note that none of the students whose sera contained agglutinins showed any clinical symptoms of brucellosis while in the university. Likewise, none had histories of previous infection.

Hardy, Jordan, Borts, and Hardy (1932) and others who have published since then believe that, if a patient has symptoms of brucellosis, a titre of 1:80 or higher is significant while Evans (1938) places a similar emphasis on patients with titres of 1:40 or higher.

It is quite probable that the ingestion of pasteurized milk containing many killed brucella organisms may result in antibody response. In support of such an hypothesis is an observation of Holden<sup>11</sup> that "patients who have chronic brucellosis and who are extremely sensitive to any type of brucella vaccine may have their dosage schedule thrown off occasionally by the concurrent drinking of pasteurized milk." The well established fact that the administration of oral vaccines may result in antibody response is additional evidence supporting such an hypothesis.

When one faces the fact that brucellosis is to a

TABLE II  
NUMBER OF SERA WITH DEGREE OF AGGLUTINATION OF BR. ABORTUS AT HIGHEST REACTING DILUTION

DEGREE OF AGG.		SERUM DILUTIONS								
		1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280	1:2560
BEFORE RESUSPENSION	1+	51	27	16	2	0	1	0	0	1*
	2+	14	14	3	1	0	0	0	0	
	3+	0	1	0	0	1	0	0	0	
	4+	0	0	0	0	1	0	0	0	
AFTER RESUSPENSION	1+	71	39	42	16	5	0	1	0	0
	2+	17	22	12	5	0	1	0	0	1*
	3+	0	3	4	1	1	0	0	0	0
	4+	0	0	2	0	2	0	0	0	0

\* This Serum Gave, Before Resuspension, a 4+ at 1:160, a 3+ at 1:1280, And a 1+ at 1:2560. After Resuspension The Results Were 4+ at 1:1280 And a 2+ at 1:2560.

large extent a mimic disease<sup>12</sup> and considers the data we have submitted, he must realize that the presence of agglutinins in even high dilution in a patient suspected of having brucellosis must be interpreted with caution in making a diagnosis.

While one can readily explain the presence of agglutinins for brucella in these sera as due to exposure through raw or pasteurized milk, it is conceivable, although unorthodox, that some brucella agglutinins may be normal physiological products.. In the hope of throwing some light upon this question, as well as seeing if cross infection might play a role in stimulating brucella agglutinins, it was decided to determine the increase in these sera of agglutinins for *P. tularensis*.<sup>\*</sup> Table VI gives the incidence and titres of agglutinins for *P. tularensis*

in the 843 sera investigated. This table shows that agglutinins were demonstrated in 54 sera after only four hours incubation at 37°C and in 133 sera after resuspension. Eleven of these sera had titres of 1:40, four titres of 1:80, and one a titre of 1:160. None gave a history of having had tularemia and there was no correlation between the presence of these agglutinins and those for *Br. abortus*.

Since there is no evidence that any of these people had tularemia, one is rather forced to the conclusion that the presence of agglutinins for *P. tularensis* is due either to infection with some unknown antigenically related organism, or else they are normal physiological products.

<sup>\*</sup>It is generally recognized that brucella infection may be associated with an increased agglutinin titre for *P. tularensis* (Sherwood, N.P. Immunology, C. V. Mosby Co., 1941, p. 390).

TABLE III

NUMBER OF SERA AND HIGHEST DILUTION GIVING A 4+ AGGLUTINATION OF *BR. ABORTUS* BEFORE AND AFTER RESUSPENSION

SERUM DILUTIONS	1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280
BEFORE RESUSPENSION	1 (0.12%)	0	1 (0.12%)	2 (0.24%)	1 (0.12%)	0	0	0
AFTER RESUSPENSION	16 (1.90%)	13 (1.54%)	7 (0.82%)	1 (0.12%)	4 (0.47%)	0	1 (0.12%)	1 (0.12%)

TABLE IV

NUMBER OF SERA WITH HIGHEST DILUTION GIVING A 3+ AGGLUTINATION OF *BR. ABORTUS* BEFORE AND AFTER RESUSPENSION

SERUM DILUTION	1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280	1:2560
BEFORE RESUSPENSION	1 (0.12%)	1 (0.12%)	0	0	1 (0.12%)	0	0	1 (0.12%)	0
AFTER RESUSPENSION	23 (2.70%)	13 (1.54%)	10 (1.20%)	3 (0.35%)	1 (0.12%)	0	0	0	0

TABLE V

NUMBER OF SERA WITH HIGHEST DILUTION GIVING 3+ AND 4+ REACTIONS

SERUM DILUTION	1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280	1:2560
BEFORE RESUSPENSION	2 (0.24%)	1 (0.12%)	1 (0.12%)	2 (0.24%)	2 (0.24%)	0	0	1 (0.12%)	0
AFTER RESUSPENSION	39 (4.64%)	26 (3.08%)	17 (2.02%)	4 (0.47%)	4 (0.47%)	0	1 (0.12%)	1 (0.12%)	0



### Summary and Conclusions

1. Eight hundred forty-three students entering the University of Kansas were given careful physical examinations and their sera investigated for the presence of agglutinins for *Br. abortus* and *P. tularensis* respectively; none showed clinical evidence of either brucellosis or tularemia. The health records of most of these students were followed for a period of four years. None of the students whose sera contained agglutinins for *Br. abortus* gave a history of having had brucellosis and none developed brucellosis during their four years at the university.

2. Agglutinins for *Br. abortus* were detected in 245 of the sera and agglutinins for *P. tularensis* in 133 of them. There was no correlation between the presence of agglutinins for *Br. abortus* and *P. tularensis*.

3. If one defines the titre of serum as the highest dilution giving at least a 1+ reaction, then 60 sera had titres of 1:40, 22 had titres of 1:80, eight had titres of 1:160, and three had titres of 1:320, 1:640, and 1:2560 respectively.

4. If one defines the titre of a serum as the highest dilution giving at least a 3+ or 4+ reaction then 17 had titres of 1:40, four had titres of 1:80, four had titres of 1:160, and two had titres of 1:640 and 1:1280 respectively.

5. If one defines the titre of a serum as the highest dilution giving a 4+ (complete) agglutination, then seven had titres of 1:40, one had a titre of 1:80, four had titres of 1:160, and two had titres of 1:640 and 1:1280 respectively.

6. The two most logical explanations for the presence of agglutinins for *Brucella abortus* would be (1) antigenic stimulation resulting from the consumption of either raw or pasturized milk, containing *Brucella abortus*, without infection, (2) antigenic stimulation resulting from subclinical infection or unrecognized infection. That specific antigenic stimulation is responsible for such a large incidence of agglutinins for *Br. abortus* is indicated by the widespread brucella infection reported as existing in food animals and the relatively high incidence

of chronic brucellosis in man reported by Evans (1947).<sup>12</sup>

7. Since there was no correlation between the presence of brucella agglutinins and those for *P. tularensis* it is difficult to explain the presence of the latter. It is suggested that the agglutinins for *P. tularensis* observed in these students could be explained as resulting from either infection with antigenically related organisms or were normal physiological products not requiring the presence of antigen within the body for their production.

8. It seems obvious that the repeated warnings of Evans, Borts, and others that great caution is necessary in interpreting the significance of agglutinins in suspected brucellosis or even tularemia is warranted.

### Acknowledgment

Acknowledgment is made of the financial aid obtained in support of this project by the Graduate Research Committee of the University of Kansas and the United States Public Health Service.

### Bibliography

1. Spink, Wesley W., The Diagnosis of Brucellosis. Connecticut State Medical Journal, 12:5:406, May, 1948.
2. Hardy, A. V., Jordan, C. F., Borts, I. H., and Hardy, G. C., Undulant Fever. Bulletin 158, National Institute of Health, 1932.
3. Evans, A. C., Robinson, F. H., and Baumgartner, Leona, Studies on Chronic Brucellosis. IV. An Evaluation of the Diagnostic Laboratory Tests. Public Health Reports, 53:34: (August 26) 1938.
4. Dooley, P., Undulant Fever, Arch. Int. Med., 50:375-379, 1932.
5. Menefee, E. E., Jr., and Poston, Mary, Significance of Standard Laboratory Procedures in the Diagnosis of Brucellosis. Am. J. Med. Sc., 197:646-653, 1939.
6. Borts, I. H., Some Observations Regarding the Epidemiology, Spread, and Diagnosis of Brucellosis. J. of the Kansas Med. Soc., December, 1945.
7. Harris, Harold J., Brucellosis. J.A.M.A., 13 (18):1485-1492, August 31, 1946.
8. Wong, D. H., and Chow, C. H., Group Agglutinins of *Brucella abortus* and *Vibrio Cholerae*. Chinese Med. J., 52:591-594, October, 1937.
9. Eisele, C. Wesley, McCullough, Norman B., Beal, Grace A., Rottschaefer, William, *Brucella* Agglutination Tests. J.A.M.A. 135:15:983-985, December 13, 1947.
10. Sherwood, Noble P., Bond, Glenn C., and Canuteson, R. I., On the Possible Presence of a Reagin-Like Factor in Normal Human Serum. Amer. J. Syph., Gon., and Ven Dis. 25:2:179-185 (March) 1941.
11. Holden, L. W., Personal Communication, May, 1948.
12. Evans, Alice C., Brucellosis in the United States. Amer. J. Publ. Health, 37:2:139-151, 1947.

TABLE VI  
TITRE FOR *P. TULARENSIS* BEFORE AND AFTER RESUSPENSION

	0	1:10	1:20	1:40	1:80	1:160	1:320	1:140	1:1280	1:2560
BEFORE	789	36 (4.27%)	14 (1.66%)	4 (0.47%)	0	0	0	0	0	0
AFTER	690	86 (10.20%)	31 (3.68%)	11 (1.30%)	4 (0.47%)	1 (0.12%)	0	0	0	0

# Trichinosis: With Report of a Case

Wendell M. Tate, M.D.

Peabody, Kansas

and

James A. Wheeler, M.D.\*

Newton, Kansas

## Preface

In presenting this paper the writers wish to express acknowledgment of the cooperation of Charles Hunter, Ph.D., Director of Laboratories of the Kansas State Board of Health; of Dr. B. S. Kline of the Mt. Sinai Hospital, Cleveland, Ohio, and of the National Institute of Health, Bethesda, Maryland. Without their aid the case would have been in the class of undiagnosed maladies.

## Introduction

As trichinosis is an exceedingly difficult disease to diagnose and to prove, we feel this case is worthy of presentation. Investigations within the last decade have proved that many cases of trichinosis, particularly the milder ones, go undiagnosed. It is obvious after a very careful review of the literature that clinicians and pathologists do not agree as to the number of cases of trichinosis in the United States. The latter report an estimate of 10 to 17 per cent of all routine necropsies present evidence of trichinosis, yet in the last 10 years in the state of Kansas only 10 cases have been reported. Unfortunately, trichinosis may present symptoms of other diseases and most of the cases seen are so mild or so obscure that the correct diagnosis is seldom made. Trichinosis is not a rare disease as is commonly supposed but is far too common. Kellog, 1934, estimated that 10 to 20 millions of Americans were infested with trichinosis.

Trichinosis is, and always has been, a rather serious health problem, one which to date has been sadly neglected for want of careful inspection, instruction and control. Last, but not least, the patient did recover after a very stormy and prolonged course. The absolute negative laboratory findings in this case were confusing in the early stages.

## History

The earliest conception that the meat of swine is potentially injurious when eaten may be found in the Scriptures "of their flesh shall ye not eat and their carcass shall ye not touch, they are unclean to you," Leviticus 11:8. Trichinosis may be briefly defined as an acute febrile disease caused by *Trichinella Spiralis* and characterized by remittant fever, swelling of the face and eyelids, pain and soreness in the muscles, accompanied by emotional disturb-

ances and emaciation. The encysted larval form was first noted in human trichinosis by Peacock in 1828 and by Hilton in 1833 and later by Padget in 1835 at autopsy. The larval form dissected by Padget was described in the same year by Owen who gave it the name *Trichina Spiralis*. The first to observe the presence of trichina cysts was Leedy in 1846. Leuckhart in 1855, Virchow in 1859, and Zenker in 1860 contributed valuable laboratory aid in this particular study. It was Virchow who described the life cycle as it is now known. Zenker recognized the trichina as a new worm and the cause of a severe febrile disease. It was Brown who in 1897 emphasized the diagnostic importance of a high eosinophile count.

## Incidence

Trichinosis is to be found almost universally where pork is eaten raw or insufficiently cooked. It is noted more commonly in the northern hemisphere than in the tropics. It is, according to Gradwohl, cosmopolitan except in Australia, Puerto Rico and in the Philippines. It is fairly common in Europe and in the United States but is comparatively rare in Africa and South America. According to Gradwohl this parasite has never been observed in Cuba either in man or animals.

Investigators of this subject have within the last decade proved that trichinosis is much more common than previously supposed. Riley and Scheifley examined the diaphragms of all cadavers in the dissecting room of the University of Minnesota Medical School, and out of 117 cadavers found conclusive evidence of trichinosis in 20. Considerable study of the incidence of trichinosis in this country was made by Hall and Collins in 1937 and Nolan and Bozicevich in 1938. The former published a preliminary report on the study of 300 diaphragms and Nolan and Bozicevich on an additional 700 diaphragms. The incidence of the disease showed that 174 were found infested with trichina or an incidence of 17.4 per cent. These 1000 diaphragms were from unselected, routine necropsies and were obtained in Washington, D. C., Baltimore, Maryland, from Philadelphia, Pennsylvania, Chelsea, Massachusetts, Brooklyn, New York, and Portsmouth, Virginia. The National Institute of Health, in about 4,900 diaphragms from unselected autopsies in the United States, found that 16.4 per cent

\* Axtell Clinic.



were positive for trichinae. Magath (1937) reported after necropsies on 220 bodies of patients of the Mayo Clinic an incidence of infestation of 12 to 15 per cent. Wright, Jacobs and Walton (1944) reported their findings based on examination for trichinae of 5,313 diaphragms from 189 hospitals in 37 states and the District of Columbia as 16.1 per cent. It is interesting to note that in this series were 200 Jews. Of this 200 only one was found positive for trichinae. Kerr (1939) reported his findings on 2,765 diaphragms in the states of Alabama, Georgia, Maryland, Missouri, North Carolina, Oklahoma, Tennessee and Texas as 441 positive cases or an incidence of 15.9 per cent.

#### **The *Trichinella Spiralis***

Trichinosis is produced by *Trichinella Spiralis*. The parasite is practically always acquired by the human being through the ingestion of trichinous meat. The male measures 1.4 millimeters in length and 0.04 millimeters in diameter. The anterior part of the body is narrowed, the orifice of the cloaca is terminal and lies between the two caudal appendages; the two pairs of papillae are internal and dorsal. The female measures three to four millimeters in length and 0.06 millimeters in diameter.

It is from the eating of encysted larval forms that the encysted trichinella taken into the stomach of the host, escape from their capsules. They then enter the duodenum and jejunum where they mature. Soon after copulation the males die and females penetrate into the mucous membranes and reach the lymph spaces. The eggs are deposited there and are carried along by the lymph stream to the heart, hence to every part of the body, but peculiarly enough, further development is in striated muscles. On about the 10th day, the first worms have reached their destination, but further invasions are constantly taking place because the intestinal worms live from five to seven weeks and continue to produce their young. The encysted trichinella may remain alive and capable of development for many years. Trichinosis may be transmitted to fowl, pigeons and ducks. It can also be produced in rats, bears, pigs, wild boar, fox, badger and many other mammals.

#### **Symptoms**

Many cases present no symptoms or they may be very light and the patient experiences very little discomfort. In cases of severe trichinosis the symptoms are fairly well characteristic. In this type of case the symptoms may be classified under three stages. Stage I is intestinal infestation. These symptoms usually follow a few hours after eating the infested meat and are characterized by heaviness and discomfort in the epigastrium, general lassitude, nausea and vomiting, diarrhea and cramping in

the abdomen. At first there may be no temperature, but usually at the end of the first week a remittent type of fever to 104 degrees is noted. Stage II is dissemination. At this time there may be noted edema of the face, especially the eyelids. The fever continues to be remittent. At this time, muscle pains, profuse sweats and marked prostration are prominent. Stage III is encystment. About the fourth to the fifth week enough of the embryos have become encysted to decrease the severity of the general symptoms. Acute bronchitis and an urticaria like rash may appear during all three stages. Death from overwhelming infections may ensue during the first 48 hours or at any time thereafter. When recovery follows, the patient passes through a long recovery period. Nelson (1947) in 22 cases summarized his findings as follows: edema of eyelids, 82 per cent; muscle pain, 82 per cent; fever, 55 per cent; malaise, 46 per cent; diarrhea, 36 per cent; weakness, 23 per cent.

#### **Treatment of Trichinosis**

There has as yet been no specific treatment for this disease. Various drugs have been used without any repeated success. The treatment is entirely symptomatic and supportive. This should include relief of pain, plenty of rest and nourishment and plenty of fluids. Penicillin should be used to conquer secondary invaders. Streptomycin may be tried. There is one point of agreement, however, and that is in initial catharsis. When the disease is first recognized as a case of probable trichinosis, active purgation should be instituted.

#### **Public Health Problem**

Trichinosis is a serious public health problem in the United States and to date has been very much underestimated. The trichinosis of humans is dependent almost entirely on the consumption of trichinous infested pork. Kerr in 1940 cites a survey of 183 southern cities with a population of 10,000 or more, which showed that city garbage from 78 of the 183 cities replying to the questionnaire was fed to swine, or an incidence of 42.6 per cent. For the country as a whole, it occurred in 52.5 per cent. The United States Department of Agriculture estimated that on January 1, 1940, there were 58,312,000 hogs on farms in this country, and that the total number of garbage fed hogs was about 1,250,000 a year. This gives a high potential of trichinous infested pork.

Barrett and Sears in 1938 reported two outbreaks of this disease in two different cities in Michigan. They emphasized the fact that this is not a rare disease. Between 1913 and 1947 there were 157 cases of trichinosis with 14 deaths reported to the Minnesota Department of Health. On January 29, 1947, 30 additional cases of trichinosis were brought

to the attention of the Minnesota State Board of Health, according to C. B. Nelson. Between 1938 and 1948 there were 10 cases reported to the Kansas State Board of Health. Shookhoff, Bernkrant and Greenberg reported an outbreak of trichinosis in New York City between February and March of 1945 of 84 cases. According to Schwartz, 1946, the number of cases of trichinosis reported in the United States between 1842, when the parasite *Trichinella Spiralis* was first discovered in human beings in this country, and 1938, totals 6000. States with large foreign populations such as New York, Pennsylvania, Massachusetts, etc., have a much higher percentage.

#### Prevention of Trichinosis

The responsibility of preventing trichinosis should rest with the consumer, the producer and with authorities of local, state and federal health agencies. No practical system has been in use which would protect consumers who eat raw or poorly cooked pork products. Microscopic inspection, according to Schwartz, 1946, which was made in the United States between 1898 and 1906 on 8,000 hogs, since such inspection was compulsory for all hog carcasses intended for export, showed that between one and two per cent were infested. Certain European countries have an elaborate system of microscopic inspection of pork for the parasite. This system is not perfect, is very costly and was discarded in this country in 1907. To prevent trichinosis in humans, the disease must be prevented in swine. The latter acquire the disease by eating raw trichina infected meat. While the elimination of the raw commercial garbage feeding would reduce the incidence considerably, due consideration must be the control of the feeding of hogs raised on the farm, to eliminate the eating of raw pork, bones, excreta, rats and carcasses of dead hogs. The widely prevailing practice of feeding hogs raw garbage should be stopped and cooked garbage made compulsory.

The education of the public has been carried out by the United States Department of Agriculture in printing pamphlets such as "Cook Pork and its Products Thoroughly," Series A I 39, and Leaflet No. 34, "Trichinosis a Disease Caused by Eating Raw Pork." Wider distribution of these pamphlets is certainly in order. In the United States, pork products of any kind that are eaten without cooking by the consumer are processed by cooking, special freezing or curing under careful inspection of federal inspectors.

#### Case Report

The case to be reported is that of a white male, age 45, who was quite well until February 1, 1949, at which time he had some gastro-intestinal dis-

turbance associated with gas and moderate diarrhea and a rather uncomfortable feeling in the entire abdomen. The temperature was 100 degrees. All other findings were essentially negative. He was given 300,000 units of crystalline procaine penicillin G in oil with aluminum monostearate, and after a day or so felt fairly well until February 15, at which time he was seen, complaining of swelling of the eyelids, dizziness, gastro-intestinal upset with diarrhea and abdominal discomfort. He had no fever. Physical examination was entirely negative. He was given cremo carbonates, drams one every four hours; five per cent sulfathiozole ophthalmic ointment with directions to use every four hours and prothricin drops for his chronic sinusitis. He was seen the following morning, at which time he was afebrile. The lids were quite swollen and his general complaints were the same. At this time he was given pyribenzamine, 50 mgs., after meals. His condition remained the same on the following day and on February 18 he was seen again. Temperature was 101 degrees; urinalysis, negative. Blood count, R.B.C. 4,320,000; W.B.C. 10,800; Hb. 19 grams; color index 1.1. Unfortunately no Schilling test was done at this time. He was given 300,000 units of crystalline procaine penicillin G in oil with aluminum monostearate, bacitracin ophthalmic ointment and acetylsalicylic acid, 5 grs., every four hours. On February 19 his complaints were very much the same. The temperature was still of a remittent type to 101 degrees. The 300,000 units of penicillin G was repeated. The following day, as no improvement was noted, he was entered in a hospital for more complete study and observation.

For a number of years the patient has had considerable nasal and sinus disturbance. He has had considerable posterior nasal discharge most of the time. At the age of 30 years he had an office operation on the right inferior turbinate. He has never had any trouble with eyes except for accommodation. About 15 years ago, or at the age of 30, he was told by a competent physician that he had a murmur in his heart when he applied for insurance and was rated up at that time. Since then numerous physicians have reassured him that his heart is normal. For some time he has been subject to gastro-intestinal disturbance characterized by gas, constipation and abdominal distress. In 1945 he had a complete gastro-intestinal study and was diagnosed spastic colon and anal fissure. The anal fissure was excised surgically. In 1947 he had an indefinite intestinal upset associated with a low degree of fever. X-ray studies at this time revealed a spastic colon. From this time until the onset of the present illness, he had had very little gastro-intestinal disturbance. The patient had an appendectomy in 1926. There



were no other serious illnesses, operations or injuries.

Physical examination revealed a well nourished white male, age 45, cooperating readily and well. The weight of the patient was 185 pounds and height five feet eleven inches. His mental state was good. Temperature was 100. The face above the bridge of the nose and to the ears was somewhat swollen. The eyelids were puffy and swollen. Eyes reacted to light and accommodated distance. Ophthalmoscopic examination was normal. The teeth were negative except for considerable bridge work being present. The nasal septum was deviated to the right with part of the inferior turbinate surgically removed. There was a chronic pan sinusitis present. The heart was within normal limits with regular rhythm and a rate of 82. No murmurs were heard. The blood pressure was 120 over 80. The vessels were of normal elasticity. The abdomen was some distended with indefinite tenderness over its entirety. No localized tenderness was noted. A McBurney's incision for an appendectomy was noted.

#### Laboratory Procedures

Extensive laboratory procedures were done on this particular case of trichinosis. The diagnosis of trichinosis may be proved in several ways. The adult worms may, according to some authorities, be found in the stools, but the disease must be expected and search made early, probably within the first 72 hours. The embryos may also be found in the peripheral blood between the seventh and twenty-fifth days. They may also be found in the spinal fluid. By the end of the fifth to seventh week the encysted embryos may be found by microscopic examination of a muscle biopsy. The complement fixation and flocculation tests are considered reliable and become positive about the fourth week and remain so for approximately 10 months.

The following laboratory procedures were performed and with these subsequent results: numerous urinalyses were done and all were essentially negative. Wasserman and Kline tests were negative. Spinal fluid was negative for embryos, colloidal gold curve and cell count. Stool specimens were negative. Blood agglutinations, Typhoid O and H, Paratyphoid A, B, Abortus and Proteus OX-19 were negative. The blood was negative, no malaria or trichinae parasites being noted in repeated smears. The non-protein nitrogen was 32 and the blood sugar was 101. A blood culture was negative. X-rays of sinuses and multiple x-rays of the chest were negative. An electrocardiogram was normal. A flat plate of the abdomen and barium enema were negative for any pathology. The antigen skin test performed on the 10th day of disease was negative. The flocculation and complement fixation tests were negative on

the seventh day of the illness but were repeated on the 36th day and were strongly positive. The outstanding feature of all the laboratory procedures performed was the high eosinophile count noted in the Schilling tests. A typical blood count was Hb. 19 grams; color index 1.1; R.B.C. 4,500,000; W.B.C. 15,000; Schillings, eosinophiles 56 per cent, monocytes three per cent. This remained high until about the 34th day of the disease and then became normal. Laboratory report on a piece of ham, a portion of which the patient had eaten just five days prior to the onset of his illness, was as follows: "spore formers, yeast and staphylococci present in considerable numbers. Trichinosis was not found by direct compression method." A small piece of left deltoid muscle was removed on the 21st day. The pathological diagnosis was "deltoid muscle biopsy showing polyarteritis; indefinite lesions in the muscle which are suggestive of trichinosis but which cannot be diagnosed with certainty."

#### Course in Hospital

This patient had a stormy acute stage of trichinosis, which lasted 31 days; 22 days of this period were spent in hospitals. The patient was acutely ill. During the first 15 days he ran a remittent type of temperature with a high point of 104 degrees on the 11th day of illness and next high of 103 on the 12th day. Delirium and nervousness were especially marked when temperature was elevated. Extreme mental confusion was prominent through the febrile course.

At the onset of his illness, he received 600,000 units of penicillin procaine G in oil with aluminum monostearate in two doses and when, five days later, he was entered in the hospital for observation, he received 30,000 units of aqueous penicillin G every three hours for 750,000 units or a total of 1,350,000 units of penicillin the first nine days of his illness without any alleviation of symptoms. On the 13th day of his illness he was given one gram of streptomycin intramuscularly in divided doses, and it is interesting to note that the temperature dropped at this point and became and stayed normal on the 15th day of illness. The rest of the therapy while in the hospital was symptomatic.

#### Course After Leaving Hospital

After leaving the hospital on the 31st day, the patient did fairly well until about the 45th day of his illness. He seemed to feel stronger, ate well and looked good. At about this time he began to experience more sharp, shooting pains in the anterior thigh muscles, the muscles of the chest and of the upper arms. These seemed to be aggravated at night during sleeping hours. He was nervous and slept poorly even with sedation. Weight was main-



tained. He was unable to do his usual office work, as he could not seem to concentrate on the work at hand. He was extremely restless. The treatment during this stage was again symptomatic. Three months after the onset of the disease he is making a slow recovery.

### Conclusion

The disease trichinosis is discussed. A partial review of the literature is given from 1828, when it was first noted by Peacock, until the present time. The methods of diagnosis of this disease were briefly noted. The conclusion of pathologists who state that trichinosis is much more common than supposed and diagnosed clinically is brought out. They have proved from careful investigations that if the search were made on all routine autopsies, approximately 16.4 per cent would reveal trichinosis. The state of Kansas for the years 1939 through 1948 had only 10 cases reported. This would bear out the contention of some that many cases of trichinosis, particularly the mild cases, go undiagnosed.

In this country there are no definite measures to prevent the sale of trichinous pork. Some states, for example New York, have instituted measures to prevent the spread of trichinosis among swine.

A case of severe trichinosis is presented in which the acute stage lasted 31 days. The diagnosis was suspected but proof was difficult. An eosinophile count of 56 was noted. A muscle biopsy done on the 21st day was suggestive of trichinosis but not positive. The flocculation and complement fixation tests done on the seventh day were negative but when repeated on the 36th day were positive. These were done by Dr. B. S. Kline of the Mt. Sinai Hospital at Cleveland, Ohio, and the National Institute of Public Health, Bethesda, Maryland. This case recovered from the acute stage to pass into the chronic stage with muscle pains and weakness. There is no known treatment in light of present day knowledge. However, it was interesting to note that after giving one gram of streptomycin on the 15th day of the patient's illness, the temperature became and stayed normal. Penicillin had no effect on the course.

### Bibliography

1. Trichiniasis (Trichinosis), Practice of Medicine, Tice, Volume V, 172-182.
2. Trichinosis, Clinical Laboratory Methods and Diagnosis, Gradwohl, Kouri. Volume III, 263-276.
3. Public Health Aspects of the Trichinosis Problem in the South, K. B. Kerr, Washington, D. C.
4. Cook Pork and Its Products Thoroughly, United States Dept. of Agriculture, Bureau of Animal Industry. Series A. 1. 39.
5. Trichinosis, A Disease Caused by Eating Raw Pork, Benjamin Schwartz, Chief of Zoological Division, Bureau of Animal Industry, Leaflet No. 34, U. S. Dept. of Agriculture.
6. Trichinosis in Minnesota, Minnesota Medicine, 30:640 (June) 1947, No. 220766, C. B. Nelson.
7. Trichinosis: A Report of Twelve Cases Occurring in Colorado, Colorado Medicine, 33:880 (December) 1936, No. 155567, Charles J. Stettheimer.
8. The Therapy of the Cook County Hospital: Therapy of Trichinosis, Journal of the American Medical Association, 104:472 (February) 1937, No. 163863, Bernard Fantus.
9. Trichinosis Treated With Sulfapyridine, Ohio State Medical Journal, 37:952 (October) 1941, No. 191286, Frank M. Wisely and I. E. Treece.
10. Treatment of Trichinosis, Munchener medizinische Wochenschrift, 88:453 (April) 1941, No. 192892, E.A.R.F. Haudet.
11. The Favorable Effect of Large "Causyth" Doses on the Course of a Massive Trichinosis Infection, Med. Klin. 27:1600 (October 30) 1931, No. 134943, Oscar Weltmann.
12. A New Treatment of Trichinosis with Calcium, Munchener medizinische Wochenschrift 85:669 (May 6) 1938, No. 172857, E. Sogrmeyer.
13. The Treatment of Trichinosis. A Review of Methods, British Medical Journal, 1:376 (February 25) 1939, No. 183508, Vernon D. van Someren.
14. Trichinosis and Periarthritis Nodosa. Differential Diagnosis: Possible Relationship, Journal of the American Medical Association, 122:274 (May 29) 1943, No. 201556, Hobart A. Reimann, Alison H. Price, Peter A. Herbut.
15. Early Mild Infestation With the Parasite *Trichinella Spiralis*: Report of Ten Cases, Journal of the American Medical Association, 114:2271 (June 8) 1940, No. 182434, Jerome E. Andes, Robert A. Greene and Edward L. Breazeale.
16. The Diagnosis of Trichinosis by the Digestion Method. An Additional Aid to Diagnosis, American Journal of Clinical Pathology 9:209 (March) 1939, No. 173772, Frank B. Queen.
17. The Epidemiology of Trichinosis, Biologica, 1:127 (September) 1944, No. 211455, Amador Neghme.
18. The Trichinosis Plague: More than 10,000 Americans Infested, Good Health, 69:6 (May) 1934, No. 159178, John Harvey Kellogg.
19. Encysted Trichinae: Their Incidence in a Private Practice and the Bearing of this on the Interpretation of Diagnostic Tests, Journal of the American Medical Association, 108:1964 (June) 1937, No. 159357, Thomas B. Magath.
20. Trichinosis-Incidence and Diagnostic Tests, The New England Journal of Medicine, 216:463 (March 18) 1937, No. 157834, Donald L. Augustine.
21. Trichinosis. A Study of 23 Cases, American Journal of the Medical Sciences, 199:328 (March) 1940, No. 180874, Francis D. Murphy, Harriet D. James, J. W. Rastetter.
22. The Diagnosis of Trichinosis by Skin and Precipitin Tests, American Journal of Clinical Pathology, 11:195 (March) 1941, No. 188195, James B. McNaught, Rodney R. Beard and Jack D. Myers.
23. An Outbreak of Trichinosis in New York City, With Special Reference to the Intradermal and Precipitin Tests, American Journal of Public Health, 36:1403 (December) 1946, Howard B. Shookhoff, William B. Birnkrant and Morris Greenberg.
24. The Antigenic Phase of Trichinosis, Studies on Trichinosis, VIII. Reprint No. 2157 from the Public Health Reports, Vol. 55, No. 16, April 19, 1940, 683-692, John Bozicevic and Laszlo Detre.
25. Summary of the Finding of *Trichinella Spiralis* in a Random Sampling and Other Sampling of the Population of the United States, Studies on Trichinosis, XV. Reprint No. 2506 from the Public Health Reports, Vol. 58, No. 35, August 27, 1943, 1293-1313, Willard H. Wright, K. B. Kerr and Leon Jacobs.
26. Epidemiological Consideration Based on the Examination for Trichinae of 5,313 Diaphragms from 189 Hospitals in 37 States and the District of Columbia, Studies on Trichinosis, Reprint No. 2558 from the Public Health Reports, Vol. 59, No. 21, May 26, 1944, 669-681, Willard H. Wright, Leon Jacobs and Arthur C. Walton.
27. Some Correlations and Implications in Connection With the Incidence of Trichinae Found in 300 Diaphragms, II. Reprint No. 1817 from the Public Health Reports, Studies on Trichinosis, Vol. 52, No. 17, April 23, 1937, 512-527, Maurice G. Hall, Professor of Zoology and Benjamin J. Collins, Laboratory Aide, Division of Zoology, National Institute of Health, United States Public Health Service.
28. The Complex Clinical Picture of Trichinosis and the Diagnosis of the Disease, III, Studies on Trichinosis, Reprint No. 1819 from the Public Health Reports Vol. 52, No. 18, April 30, 1937, 539-551, Maurice G. Hall, Professor of Zoology, Division of Zoology of National Institute of Health, United States Public Health Service.
29. Public Health Problems Concerned in the Disposal of Garbage by Feeding It to Swine, Reprint from American Journal of Public Health, Vol. 33, No. 3, March, 1943, Willard H. Wright, Ph.D., F.A.P.H.A. Chief, Division of Zoology, National Institute of Health, U. S. Public Health Service, Bethesda, Maryland.
30. The Part of the Veterinary Profession in the Control of Human Trichinosis, Studies on Trichinosis IX. Reprint with alterations from Journal of the American Veterinary Medical Association, Vol. XCIV, N. S. 47, No. 6, June, 1939, 601-608, Willard H. Wright, D.V.M. Division of Zoology, National Institute of Health, U. S. Public Health Service, Washington, D. C.
31. A Consideration of the Clinical and Public Health Aspects of Trichinosis, Reprint from the Journal-Lancet, Minneapolis, November, 1942, Vol. LXII, No. 11, 389, Willard H. Wright, Ph.D., Bethesda, Maryland, National Institute of Public Health.
32. The Trichinosis Situation in the United States, United States Department of Agriculture, Bureau of Animal Industry, February, 1940, Benjamin Schwartz, Chief, Zoological Division.

## PRESIDENT'S PAGE

Dear Doctor:

As we begin the second half of the twentieth century we still have the same old problems—threats of socialized medicine and the welfare state.

How pleasant it might have been and how beneficial to the public if in 1933 when the New Deal became active the administration had instituted a program of cooperation instead of persecuting the medical profession. Working with our federal government on sound methods for disease prevention and on research, we might have progressed in ways that are not even dreamed of today.

Instead we are being torn farther apart as the years go by. At this writing Mr. Oscar Ewing, Federal Security Administrator, is in Europe praising England's socialism as an ideal solution for America's health problems and ignoring the simple fact that our mortality rate under free enterprise is 9.9 in contrast with England's figure of 10.9.

At the same time Mr. John L. Thurston who stayed home to be acting Federal Security Administrator blandly predicts that three out of 30 of our school children will eventually find their way into mental institutions. That is 10 per cent of the adults of tomorrow or 15 million inmates of mental hospitals. An increase of 2,000 per cent over the present figure!

It seems incredible that a doctor of medicine supplied that information, so we must presume that once again the strong arm of the federal government was used to lash at us. The only possible use this tactic could provide would be to discredit the doctor and to further instill distrust in the minds of the public.

The propaganda of falsehood can be fought with truth but we need the active support of each member of our profession. We need especially the services of the young men and women in medicine. You inherited the prestige of the past and in a very short time its preservation will be your responsibility. We believe it to be worth defending. We believe truth can defeat falsehood. We believe service will conquer over political strategy and in that battle we need your help. Yours is the opportunity of making the second half of this turbulent century progressive.

Sincerely yours,

*Haddon Peck, M.D.*



## EDITORIAL COMMENT

### Volume Fifty-One

The Journal of the Kansas Medical Society has completed a half century of publication and with this issue begins Volume 51. Medical papers have changed during that time, both as to content and style. There have also been alterations in all parts of the publication during the years, changes, it is hoped, being for the better.

Even the advertisements, or more properly it should be said, particularly have the advertisements improved in appearance. The use of color, an innovation of recent times, makes this Journal more attractive to look at but more costly also. Your Journal has become big business.

It is your Journal. Your Editorial Board wants it to be easy to read and especially wants it to be useful to you. Therefore, in preparation for the beginning of the second 50 years, a questionnaire was mailed to each member asking advice on ways in which the Journal could be improved.

The response has been gratifying. Some 450 replies have been received at present. A large number of suggestions were given, each of which is now being considered with interest. The Board will appreciate having many more returned because improvements can be made only if the wishes of the membership are known.

Some, often excellent, suggestions cannot be adopted because of cost or for other reasons, but many ideas will be utilized to make the Kansas Journal more completely the kind of journal Kansas physicians want to read. On several subjects opposing opinions were expressed in almost equal numbers, where one group recommended expanding a feature and the other half considered it of no interest. In such instances additional replies would be especially helpful. An early issue will carry the complete tabulation of all replies together with an analysis by the Board.

Other suggestions clearly indicate a general opinion and as quickly as possible those alterations will be inaugurated. One, the addition of a public health article, began several months ago, and another starts this month. In the future special committee pages will be omitted but all committees are invited to report items of interest through the Journal at all times. It is hoped that considerably more material pertaining to Society activities will be obtained regularly in the future.

The quality of scientific articles of course depends upon the membership. More are being received than during the war, but still more are needed. The Board, believing the Journal should not try to com-

pete with the publications of specialty boards, especially welcomes articles of general interest. These will attract a larger reading audience if they are clearly expressed, concise and accurate. It should be remembered by the author that his public includes only physicians and that their background will enable them to understand his subject matter. They are busy and appreciate reading scientific material in an objective medium as contrasted with the highly subjective style of the novelist. They want facts, supported and illustrated with facts. They read the Journal to learn.

The Editorial Board earnestly hopes to make Volume 51 better than any that have preceded it, but most of the material published during this year will have been written by the physicians of Kansas. The Journal depends upon your contributions to make it worth while.

---

### Aid to Medical Education

Federal aid to medical education will be an accepted fact unless the House of Representatives votes down legislation that will be placed on the floor at any time. S. 1453 or its companion H. R. 5940 merely await action by the Rules Committee as to the time when they shall be discussed.

S. 1453 passed the Senate on September 23, 1949, after being unanimously reported out of the Committee on Labor and Public Welfare of which Senator Pepper is chairman. Some of the principal provisions of this bill include subsidies to schools of medicine, osteopathy, public health, dentistry, nursing, etc. The figure set for schools of medicine is \$500 to be granted for each student up to the normal enrollment and an additional \$500 for those above that figure. For the nine schools of public health the amount is doubled. Professional schools coming into existence following the passage of this act could include all students as above the normal enrollment. There is a provision for grants for construction purposes and some for scholarships, and the entire program is to be administered by the Surgeon General of the Public Health Service and the Commissioner of Education, with the advice of a 10-man council appointed by the President.

Before the bill passes the House, schools of optometry will probably be added and schools of chiropractic if they will be incorporated as non-profit institutions. Certain specific problems will arise as a result of this piece of legislation. A bonus of sizable proportions will be paid to the institutions that overcrowd their facilities. An incentive is offered for the establishment of schools not now in existence. The council is given such



vast authority it could easily regulate all phases of medical instruction whereby the schools and those attending the schools might shortly find themselves vassals to federal autocracy.

Parts A, B and C of the opening section tell the old story that has by now become familiar as the fundamental arguments proposed by socializers. It goes as follows: that a shortage exists and that eliminating the shortage is extremely expensive, therefore the federal government must pay for it. There is a growing doubt in the minds of many whether any of those statements is correct. If they could be refuted the problem of socialized medicine would have been solved as well as the pressure of socialism in many other lines of activity.

Statistics do not indicate a physician shortage. Improvement in distribution could benefit certain areas, but with modern travel facilities even that factor is relatively unimportant. The cost of a medical education is nothing new, and the committee's bald statement that this cost cannot be borne by the states is an opinion that Kansas at least has proved false. Furthermore, it certainly does not follow that the federal government is the only hope. Even if the first two premises were correct, financing the schools through federal subsidies would be infinitely the most expensive manner in which the problem could be solved.

The repetition of a falsehood is certainly not an original technique in propaganda. Its use in the effort to make the United States a socialist nation is already too well recognized to require further comment. What is amazing is that the A.M.A. believed it. The Board of Trustees helped write the bill and appeared before the Senate committee. They acknowledged in their testimony that parts A and B of the bill were true. They even asked for more federal money than this bill offers, stating that medical schools will need 15 million dollars in addition to their known resources for the coming year. Then when the House of Delegates met early in December they opposed S. 1453 and its companion H. R. 5940 in their entirety, forcing the Board of Trustees to issue a statement to that effect. The embarrassment of that body is apparent. It reflects uneasiness in a desperate attempt to justify its former commitment with the present position, and as a result leaves the A.M.A. in a vacillating situation where the bill is praised for everything it proposes to do but condemned for vague eventualities that might result.

The Board of Trustees fervently begs medical journals not to criticize its actions. This is a time, we are told, when a unified front must be presented. That is all well and good, and no one is more interested in presenting a united front than is the

Kansas Medical Society. In this instance, however, it is not Kansas but the House of Delegates that criticized, and it is no one but the trustees themselves who produced disunity.

The trustees must often act decisively and with speed. There will be frequent instances where the House of Delegates fails to support such actions. All that is to be expected and of no consequence, but this should never arise on subjects of policy and especially on the foremost issue of all.

The gravest problem facing this nation today is not socialized medicine but socialism in all its aspects under the guise of a welfare state. Nor is medicine alone fighting this battle. We are one segment of many groups who believe in free enterprise and in democracy. We represent one flank of the army that is attempting to recapture individual liberty through decentralizing controls at the federal level. The A.M.A. fell into the position of saying in effect that we disapprove of federal grants in most forms but we will accept them if given to us. Thinking of that kind represents a divided front that did not stem from the grassroots. It certainly breaks faith with those in other professions and in business who also are trying to work out this problem. Therefore, in our opinion the Board of Trustees should never have been misled in the first place and should certainly have recognized the fallacy of the proposed solution and, lacking that, should have been astute enough to acknowledge that some other answer might still be available.

Having missed every one of those opportunities they were given one more by the House of Delegates, but instead of issuing a statement that was forthright in the expression of faith in private enterprise they failed again. How many more opportunities will be given? How often can we compromise with principle and still ask the public to place confidence in the ideals we profess to uphold?

### Industrial Medicine in Kansas

Increasing business activities in Kansas are beginning to make this state more conscious of industrial problems. Industrial health, which until recently was a factor only in a few areas, is now becoming of concern to all sections of the state. Most industries are small and cannot support a full time medical department, so plans are under way for supplying these industries with different types of care.

Interest has been shown in the Hartford plan where eight industries in or near that city, which together employ about 2,500 persons, agreed by a single contract to provide and maintain separate and adequate medical departments. Combined they could afford to employ full time graduate nurses with in-

dustrial experience and a full time industrial physician.

The medical staff serves all industries, dividing their time as equitably as possible under the agreement and according to the needs of each individual company. The physician, for instance, spends his entire time on a schedule among all eight plants. Should an emergency arise in any company he could immediately be summoned or the patient could be taken to him, even though he should be working in another factory.

The full time physician is interested not only in pre-employment examinations but in the continued good health of all employees. This includes nutritional services as well as safety work. It has been learned under the Hartford plan that employees are seeking the advice of the physician for many things not directly related to health. As such, his services are becoming increasingly valuable under the heading of public relations.

The industrial physician is also cooperating with the medical profession of the city. Treatment for illnesses is not given by the company doctor but referred back to the family physician. A panel of specialists selected by the medical profession is recorded at each company so that in an emergency adequate professional care will be available at all times. The employee also approves of the plan because he has confidence in the physician and because this service is beneficial to him.

Whether the exact Hartford plan will be followed in any Kansas community is not known at the moment. However, the idea is under consideration in those towns where a number of small factories are established. In other places where even a combination of industries would not be sufficient to employ a full time physician, more attention is given toward the employment of a part time industrial physician and he, with a special interest in that field, is giving Kansas industries a service they have not had before.

So as Kansas is developing more activities in industry, the Kansas Medical Society, through its Committee on Industrial Medicine, is planning another public service project to benefit the employer, the employees, and through them, the general living conditions of all people in this state.

---

### Income Tax Returns

Final income tax returns for 1949 will be due in a short time. Last month the Journal announced that the reports of physicians and persons in certain other professions would be more closely scrutinized this year than ever before. It is, therefore, to the physician's benefit that particular care be taken in the preparation of this year's returns.

The suggestions as to preparation of returns given below were checked by Breilsford, Gifford and Hardesty, Certified Public Accountants of Topeka, the firm that audits the books of the Kansas Medical Society.

Except for those few physicians whose income is largely derived from salaries, the doctor may save money and time as well as inconvenience if he will employ proper assistance in making out his income tax return. It need hardly be pointed out, however, that the value of such assistance depends upon knowledge and experience in tax matters. Not only may time be saved in computing figures but, because of wider knowledge of tax laws, legitimate deductions may be pointed out that the average physician may not be aware of.

There are numerous regulations that apply only to small groups of people, some of those directly to physicians. By way of example, physicians are not permitted to mark off certain amounts of entertainment. The physician's code of ethics prohibits advertising and this may be the reason the federal government has regulated to disallow such claims.

There is the possibility of splitting income on a joint husband and wife return. In many instances this will result in substantial savings because the computation is based on half the income. Such a plan will not be practical in all instances, but it should be investigated.

Personal exemptions are \$600 for the taxpayer and \$600 for his spouse. An additional \$600 per spouse is allowable if either or both have reached the age of 65. If either spouse is blind, another \$600 may be claimed for each. An exemption of \$600 may be claimed for each dependent of certain close relationship for whom over half the actual amount of support was paid by the taxpayer and where the dependent did not have a gross income of \$500.

A few items of particular interest should be stressed because of their special application to physicians. Office rental, for instance, is a deductible item except when the physician owns his home and maintains an office in it. Under those circumstances he can claim depreciation of that portion of the property occupied as an office. Depreciation and the total cost of repair and upkeep of an automobile used exclusively for professional visits may be deducted or proportionately where the car is also used for pleasure. If more than one automobile is used, this may be figured on the basis of the percentage of the driving that was done for professional use on each of the cars. Loss occasioned by damage to an automobile by collision or accident, when being used for either business or pleasure, if not due to wilful or negligent action, is deductible as long as the cost of repair has not been paid by insurance. Claims for



automobile expenses should be supported by bookkeeping records showing the mileage traveled, etc.

Dues to professional societies may be deducted as well as traveling expenses for attending medical conventions, but expenses incurred in taking post-graduate courses have been held not to be deductible. The cost of surgical instruments and laboratory equipment may not be deducted, but depreciation can be taken over the life of the assets. On the other hand, the cost of medicines and materials that are actually used in treatment may be deducted, the cost of utilities for the office, subscriptions to professional journals and those magazines and newspapers that are in the waiting room. Salaries paid to office assistants are, of course, subtracted.

The matter of debts is too complicated to evaluate here. The basis for figuring this varies according to whether the cash or accrual bookkeeping system is used. Under the cash system bad accounts have not been reported and therefore are not deductible. In the accrual system they are deductible, but care must be used in recording collections that had previously been marked off as bad debts as such recoveries are taxable.

There is also much to be said on taxes and licenses and this discussion can give only the vaguest indication of the situation. In general, however, state and county taxes, except those that are levied against property which tend to increase its value, are deductible. A physician's license fees and his narcotics permit are deductible items, as is the automobile license for a car used exclusively for professional purposes. Kansas sales tax on whatever paid is deductible. Federal amusement taxes, club dues and luxuries are not. All taxes pertaining to the doctor's profession are deductible and should be deducted in the schedule wherein he arrives at his professional net income. In the final computation of tax, it may be found that it will have been of advantage to have allocated all proper expenses to your profession.

Certain insurance premiums are deductible such as that paid for malpractice, liability on the automobile used for professional purposes, insurance against loss or damage of professional equipment. Life insurance premiums are not. Legal fees incurred in the defense of a suit for alleged malpractice are deductible as business expense. However, expense incurred in the defense of a criminal action is not deductible.

Gifts to religious, charitable and scientific organizations may be taken off if the total does not amount to more than 15 per cent of the adjusted gross income and only if the organization does not carry on propaganda or attempt to influence legislation. The new act revises the optional standard deductions for contributions, interest, taxes, etc. For those preferring not to list each item, the present rate is 10

per cent of the adjusted gross income, but not in excess of \$1,000.

Persons having unusual medical or dental expenses which exceed five per cent of the adjusted gross income are permitted to deduct that item within certain limits. However, to obtain this credit the taxpayer is required to list the name and address of the person to whom payment is made, the date of payment and the amount. It will be noted that this will supply the office of Internal Revenue with data that can be used in checking the returns filed by physicians.

Certain changes have also been made in the Kansas income tax law for 1949 and these changes make it conform more nearly to the federal income tax law. However, there are some variances and these should be watched closely.

Many other items might be mentioned but those are all details that any tax expert will provide. The Journal wishes to caution each member again that special attention will be paid all returns filed by physicians this year. The Bureau of Internal Revenue has employed a larger staff than before and if any questions or discrepancies arise, all of the physician's books may be scrutinized. The reason for the special attention is obvious. Physicians are in the larger income brackets which would naturally be selected for examination. And because of the nature of their work and the manner in which the business operations are conducted, chances for error are high. It will, therefore, be of especial benefit to the physician this year to have his income tax report correctly filled out and to have available, if needed, all the necessary data to support his claim.

---

### Merger of Armed Forces Journals

Consolidation of the professional medical publications of the armed forces into a U. S. Armed Forces Journal was announced last month. The new publication, scheduled for monthly issues beginning in January, will replace the Bulletin of the U. S. Army Medical Department and the U. S. Naval Medical Bulletin.

General policies for the guidance of the publications will be established by Dr. Richard L. Meiling, Director of Medical Services, with operations carried out through a newly-created Armed Forces Medical Publications Agency, which has been assigned to the Navy's Bureau of Medicine and Surgery.

---

Hotel reservations for the 91st annual meeting of the Kansas Medical Society, May 15-18, 1950, at Wichita should be made now. Wichita hotels are the Allis, the Broadview and the Lassen.



---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the seventh of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### Government Spending

The problem is no longer socialized medicine but socialism in all phases of American life. It is a question of whether we will accept the shackles of socialized farming, socialized housing, socialized industry, not whether we choose to socialize medicine alone. Proponents of this un-American way of life are taking our liberty one piece at a time because we have failed to write our defense.

Do you know how close we are to socialism? How far we have gone on the road to serfdom? Here are a few disconnected observations that might well be considered at length and in earnest.

An economist recently analyzed the tax history of the nations of the world. Never has a country taken more than 25 per cent of its annual income for taxes and survived. The inevitable result has been bankruptcy, revolution or oblivion. Today the United States takes 29 per cent!

Or look at this. If all the money in this bountiful nation was divided equally, your share would be \$182.58. But your share of the national debt is \$2,875.

John T. Flynn compiled a table for *The Reader's Digest* (December, 1949, page 122) showing federal expenditures under each president from Washington to the present time. In five years Mr. Truman's administration spent about 11 billion more than the 32 previous presidents spent in 156 years.

Again in *The Reader's Digest* (January, 1950, page 99) appears an article condensed from an advertisement previously printed in *Automotive News*. In 1950 the federal government will spend not less than 45 billion dollars. This is ten times the 1932 expenditure. To illustrate how much this is, these interesting comparisons were made.

If everyone in the United States cashed in all his life insurance policies it would bring in 44 billion dollars—less than enough to run our federal government for one year.

If every urban home owner in this nation sold his home the total would amount to 30 billion dollars—about enough to run the government for eight months.

If every farmer sold his farm, his farm equipment

and his livestock the total would be 25 billion dollars—less than enough to operate the federal government for seven months.

And all of this in the face of a 252 billion dollar national debt!

Take Kansas and its place among the states of the nation. According to figures released by the A.M.A., we paid \$406,084,637 to the federal government this year—enough to run the nation about two weeks.

Some of this was returned through federal aid programs. Last year it was 40 million or 17 per cent. No state, of course, got back all it gave. Mississippi came close with 96 per cent. Only three received over half, and the industrial states had very small refunds, Delaware three and New York five and one-half per cent.

Again Kansas. The Legislative Council Research Department informed the *Journal* that Kansas' total assessed valuation for 1949 was \$4,095,547,092. This includes all farm and urban property, mineral reserves, moneys, credits, personal property—everything. If Kansas sold everything at its assessed valuation and gave the entire proceeds to the federal government, it would operate our country a little more than one month.

In a recent speech at Wichita Mr. Louis Bromfield, the noted author, presented a picture of what could happen to socialize industry without a change of government or revolution. Suppose during the next depression railroad employees and mine workers, for example, struck to protest reduction of wages. Operators could refuse to give in until the government finally would take over and proceed on the deficit spending theory to run those industries. It is not inconceivable that a situation can come about where private industry cannot afford to take back their property even if offered. So it could be circumstances, certainly created by government, but not a revolution that will bring socialism to the United States.

John T. Flynn in his book *The Road Ahead* discusses England's confidence in the defense afforded by the channel. This is comparable to the faith we have in our ocean barriers. Even Hitler balked at the crossing of the channel but, says Mr. Flynn, Marx made it.

The question is no longer shall we have socialized medicine but will we accept that as a portion of a larger and more dangerous program. Unless we reverse the trend, socialism or communism will certainly result. Our fight is to stem government control of medicine, yes, but unless we stop government control of farming, utilities, business and all else we will have accomplished nothing.

### Plan for 91st Annual Meeting

The program committee for the 91st annual meeting of the Kansas Medical Society, to be held at Wichita, May 15-18, has announced plans for the scientific session. Eleven speakers will take part and will present papers on subjects of interest to the general practitioner. Specialties represented will be anesthesiology, dermatology, medicine, obstetrics and gynecology, orthopedics, pediatrics, psychiatry, surgery, and urology.

A sectional program for those specializing in eye, ear, nose, and throat work is also being planned with Dr. N. L. Francis of Wichita, president of the EENT group in Kansas, in charge.

Although the Sedgwick County Medical Society will be host at the meeting, a number of physicians from other localities have been invited to assist in planning the scientific sessions. They are: Dr. G. A. Chickering, Hutchinson; Dr. C. C. Hawke, Wellington; Dr. J. A. Howell, Wellington; Dr. R. J. Metcalf, El Dorado; Dr. L. S. Nelson, Salina; Dr. Charles T. Sills, Newton; Dr. R. Sohlberg, McPherson, and Dr. W. G. Weston, Arkansas City.

Members of the Sedgwick County Society who are serving on the committee are: Dr. A. J. Adams, Dr. A. H. Bacon, Dr. H. S. Bowman, Dr. F. H. Chard, Dr. H. C. Clark, Dr. E. S. Edgerton, Dr. N. L. Francis, Dr. G. F. Gsell, Dr. C. T. Hinshaw, Dr. F. J. McEwen, Dr. G. B. Morrison, Dr. R. T. Parmley, Dr. A. F. Rossitto, and Dr. G. L. Thorpe.

Dr. Clyde Miller, general chairman, states that plans are being made to hold an open forum meeting on Tuesday evening, May 16, to which the public will be invited. It is expected that the scientific and technical exhibits will be open that night, and a well known speaker will discuss socialized medicine or some phase of socialization.

The round table luncheons usually held by each specialty have necessitated division of the group attending scientific sessions, and to avoid that situation the committee plans to hold one combined luncheon each day. Because of that, all specialty groups are asked to schedule their business sessions at breakfasts or at other times when there will be no conflict with the general program.

Mr. Leonard E. Read, president of the Foundation for Economic Education, will be speaker at the annual banquet. He is a dynamic speaker and his theme will be of especial interest to physicians since the foundation he represents is dedicated to the proposition that the voluntary society, the free-market economy and limited government are the foundations of individual freedom and progress. A dance will follow the program.

Hotel reservations for the meeting should be

made immediately. The Allis, the Broadview and the Lassen are the principal hotels in Wichita.

### Cancer Conference in Wichita

The Second Annual Mid-West Cancer Conference, sponsored jointly by the Kansas Medical Society's Committee on Control of Cancer and the Kansas Division of the American Cancer Society, will be held at the Broadview Hotel, Wichita, January 19-21. In addition to the scientific program there will be round table luncheons on Friday and Saturday and a banquet on Friday evening.

Guest speakers are: Dr. A. N. Arneson, St. Louis, associate professor of clinical obstetrics and gynecology and therapeutic radiology, Washington University; Dr. R. H. Flocks, Iowa City, head of department of urology, University of Iowa College of Medicine; Dr. L. H. Garland, San Francisco, associate clinical professor of radiology, Stanford University Medical School; Dr. Roy Hertz, Washington, D. C., chief of endocrinology section, National Cancer Institute, assistant professor of medicine, George Washington University Medical School; Dr. William P. Longmire, Jr., Los Angeles, professor of surgery, U.C.L.A. School of Medicine; Dr. Herbert Willy Meyer, New York, professor of clinical surgery, Postgraduate Medical School, New York University; Dr. Robert A. Moore, St. Louis, professor of pathology and dean, Washington University School of Medicine; Dr. Alton Ochsner, New Orleans, professor of surgery and head of the department, Tulane University, president of American Cancer Society; Dr. Arthur C. Curtis, Ann Arbor, professor and director of department of dermatology and syphilology, University of Michigan Medical School.

Two other meetings will be held during the days of the conference. A meeting of the Tri-State Society of Pathologists will be held at the Lassen Hotel on January 21, featuring a seminar on ovarian tumors. A reunion dinner of the Washington University Medical Alumni Association will be held at the Lassen on the evening of January 21.

### Kansas Section, A.C.P. to Meet

The Kansas Section of the American College of Physicians will hold its annual meeting at the Winter VA Hospital, Topeka, March 17, 1950. The committee arranging the program for the day is composed of Dr. Nathaniel Uhr, Topeka; Dr. Sloan Wilson, Kansas City, and Dr. Clarence Erickson, Pittsburg. At the dinner meeting Dr. Hugh Morgan, professor of medicine at Vanderbilt, chief consultant in internal medicine to the Surgeon General, will speak. Dr. Morgan is a past president of the American College of Physicians.



*Radiopaque diagnostic medium...*

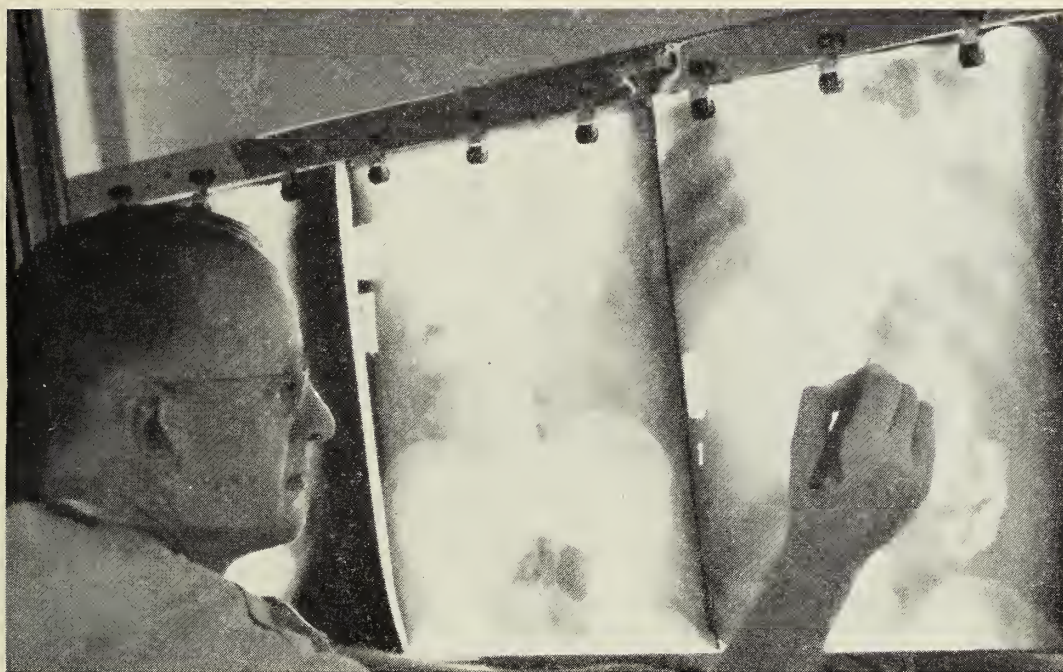
*Original development of Searle research*

**Iodochlorol<sup>®</sup>**

BRAND OF CHLORIODIZED OIL

now

council  
accepted



*Clear visualization of body cavities*—for the roentgen investigation of pathologic disorders involving sinuses . . . bronchial tree . . . uterus . . . fallopian tubes . . . fistulas . . . soft tissue sinuses . . . genitourinary tract . . . empyemic cavities.

Iodochlorol is notably free from irritation, free-flowing, highly stable and has pronounced radiopaque qualities. It contains the two halogens, iodine, 27 per cent, and chlorine, 7.5 per cent, organically combined with a highly refined peanut oil.

Iodochlorol is available in bottles containing 20 cc. of the radiopaque medium; each one is packed in an individual carton. G. D. Searle & Co., Chicago 80, Illinois.

**Searle**

RESEARCH IN THE SERVICE OF MEDICINE



## Case Reports from the University of Kansas Medical Center\*

## Tumor Conference

Edited by R. E. Stowell, M.D., and E. B. Taft, M.D.

Dr. Stowell: Carcinoma of the pancreas is a relatively rare neoplasm comprising one or two per cent of all cancer. It is four times as frequent in males as in females and occurs usually between the ages of 30 and 70 years with a peak age incidence around 60. Two-thirds of those tumors occur in the head of the pancreas. The symptomatology of cancer of the pancreas is chiefly a function of the extension of the tumor, and symptoms are due to compression or invasion of adjacent organs. The correct diagnosis of carcinoma of the pancreas is frequently missed clinically.

## Tumor Conference Case No. 48-20

*History:* E.M., a 58-year-old Negro, was admitted to the University of Kansas Medical Center on July 20, 1948, with the chief complaints of anorexia, weakness, and jaundice of one month's duration. He had had occasional bouts of nausea after meals but had rarely vomited. He had had no pain. At the time his jaundice appeared he noted that his stools had become light colored and that his urine had become dark.

*Physical Examination:* Blood pressure was 180/100. He was a well developed, well nourished man who seemed well except for his marked jaundice. His liver was palpable 3-4 cm. below the right costal margin and a soft rounded mass, thought to be the gall bladder, could be felt beneath the liver edge. No fluid wave was elicited.

*Laboratory Studies:* Bile was present in the urine on admission. His hemoglobin was 74 per cent. Gastro-intestinal roentgenograms showed no deformity of the duodenum or neighboring structures. There was inversion of the albumin globulin ratio with elevation of total blood cholesterol and lowering of the cholesterol esters. Total serum bilirubin was 18 mgm. per cent. Postoperatively his serum amylase rose to 1655 units, but by the fourth postoperative day it had fallen to 854 units.

*Course:* On July 27 a modified Whipple pancreaticoduodenectomy was performed. His immediate postoperative course was uneventful except for transient episodes of disorientation in the first few days.

Dr. Hamilton: Grossly this tumor in the head of the pancreas was small and firm. It did not involve the ampulla of Vater nor the common bile duct nor the pancreatic ducts. Apparently it produced its effects of obstruction by compression of the common

duct rather than annular constriction as is so commonly seen. The tumor was apparently completely removed. On microscopic section the tumor appeared to be secreting mucus and hence it was assumed that it arose from the epithelium of a small duct. There was no evidence of extension of the tumor to structures adjacent to the pancreas.\*

Dr. Orr: We thought that we did a satisfactory operation upon this patient. There was one unusual operative finding that I have not seen in any other case of carcinoma of the head of the pancreas. The remainder of the pancreas, the body and the tail, apparently was completely normal. Usually in such cases the pancreas is hard and nodular throughout its entire length. It would therefore appear that the ductal obstruction evidenced by this patient must have been confined to the common bile duct. Whenever there is obstruction of the main pancreatic duct, the distal portion of the pancreas does not remain normal. At operation this tumor appeared unusually favorable.

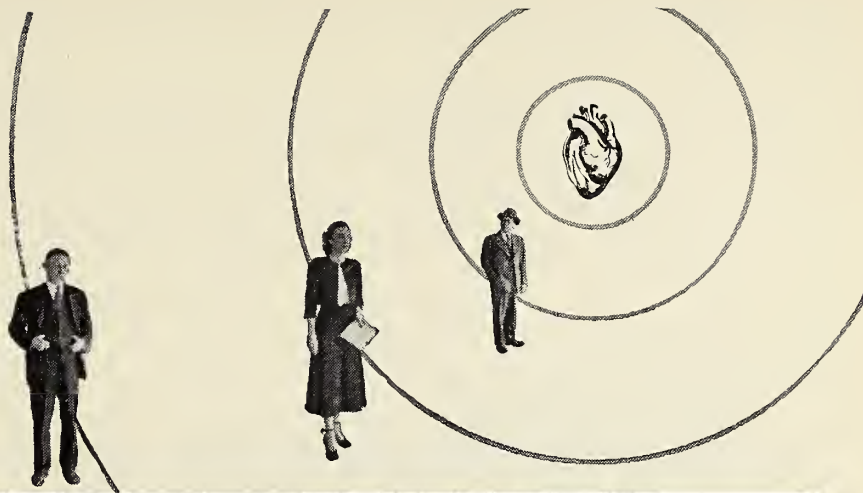
The diagnosis in patients with carcinoma of the head of the pancreas and ampulla is relatively easy with one exception, and that is the patient with infectious hepatitis whose signs and symptoms and laboratory findings may mimic almost completely jaundice from obstruction by carcinoma. Usually in such instances of possible confusion a period of watchful waiting and careful study for a few days will give the answer. The patient with hepatitis will either die or begin to recover, whereas the patient with obstructive jaundice due to carcinoma will remain the same or gradually grow worse.

Another diagnostic problem confronting the surgeon who operates on such patients is how readily can one detect a carcinoma of the pancreas by palpation. I know of a number of instances in which chronic pancreatitis has been called carcinoma. Pancreatitis may on occasion cause obstruction of the common duct. These cases are, of course, rare, but the fact that it is sometimes difficult to distinguish between these two diseases should be kept in mind.

The prognosis in carcinoma of the pancreas is so bad that some surgeons have even gone so far as to suggest that the radical operation should be discontinued. They suggest that a palliative operation only should be done in cases of carcinoma of the head of the pancreas. That certainly would be a defeatist's attitude and one with which we cannot

\*Cancer teaching activities aided by a grant from the National Cancer Institute.

\*Nineteen days after operation the patient died. At necropsy there was evidence of a generalized peritonitis but no indication of residual tumor or separation of lines of suture.



To provide the flexibility needed to adjust dosage to the individual patient's requirements, Purodigin is supplied in three strengths: Tablets of 0.1 mg., 0.15 mg. and 0.2 mg. You can rely on Purodigin to produce a constant response. The pure, crystalline, orally active glycoside—not a mixture . . .

## **PURODIGIN<sup>®</sup>**

Pure Crystalline Digitoxin Wyeth

**The  
heart  
of  
the  
matter**



*Wyeth* Incorporated • Philadelphia 3, Pa.



(R)

concur even though our results to date have not been good.

There is only one case in medical literature with which we are familiar where the patient lived for as long as six years after radical operation. That man was reported to be living with metastases. Of our group of 21 patients, there have been none who survived the operation for as long as five years. One lived 34 months; another 33 months, but all have died of cancer.

There are a number of cases on record in this hospital where patients have lived for a number of years after a palliative operation, presumably with carcinoma of the head of the pancreas or of the ampulla of Vater. We anastomosed the gall bladder to the duodenum of such a patient who four years later returned to this hospital and died. At autopsy he had a carcinoma of the head of the pancreas. Exactly what he had at the time of the original operation I, of course, cannot say. It is possible that he may have had a carcinoma of the ampulla which is believed to grow more slowly than carcinoma of the head of the pancreas. It is said that ampullary carcinomas are not as malignant as those which arise in the head of the pancreas and are not as likely to metastasize. Baggenstoss<sup>1</sup> reported 15 of 28 carcinomas of the ampulla of Vater that did not show metastases at necropsy. Another factor in patients who had survived for a considerable length of time after a palliative operation is that in advanced cases of such carcinomas the pathologist, on occasion, cannot determine the exact point of origin of the tumor.

#### Reference

1. Baggenstoss, A. H.: Major Duodenal Papilla. Arch. Path. 26:853, 1938.

---

## ACTIVITIES OF MEMBERS

---

Dr. Herbert M. Webb, Humboldt, has announced his retirement from practice. He has been practicing there since 1906.

\* \* \*

Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, was recently appointed to the committee on Professional Education of the National Conference of Cardiovascular Diseases.

\* \* \*

Dr. George Brethour, Dwight, was guest of honor at a community celebration on November 27. The occasion was planned as an expression of the community's appreciation of Dr. Brethour's 40 years of practice there.

\* \* \*

Dr. Albert J. Rettenmaier, Kansas City, was speaker at a meeting at Donnelly Community Col-

lege December 1. He discussed heart care.

\* \* \*

The Newman-Young clinic at Fort Scott announces that Dr. Robert Swisher Young, an orthopedic surgeon, is now a member of its staff. Dr. Young spent four years in the Army and since his release from the service has spent a year at Shriners Hospital in Honolulu and a year in postgraduate work at the University of Pennsylvania. He is a diplomate of the American Board of Orthopedics.

\* \* \*

Dr. Paul R. Ensign, Topeka, of the Kansas State Board of Health, was elected chairman of the Maternal and Child Health Section of the American Public Health Association at a meeting held in New York City recently.

\* \* \*

Dr. J. J. Hovorka, Emporia, announces that Dr. Stanley L. Vandervelde is now associated with him in practice. Dr. Vandervelde is a graduate of the University of Kansas School of Medicine, and after serving in the Army medical corps spent two years at Harper Hospital for graduate study in surgery.

\* \* \*

Dr. H. S. Albaugh, Olathe, described the county health department and its services to the Lincoln School P.T.A. at Olathe last month.

\* \* \*

Dr. Donald L. Rose, head of the Department of Physical Medicine at the University of Kansas Medical Center, recently spent two days at Brooke Army Medical Center as consultant for the Office of the Surgeon General.

\* \* \*

Coordination of all sections of the city and county health departments at Wichita was announced recently and Dr. Fred Mayes, director of the city department, has been named to direct the joint program.

\* \* \*

Dr. Harold Jones, Jr., Winfield, was a speaker at the annual meeting of the American Federation for Clinical Research held in Chicago recently. He reported on degenerative diseases of the nervous system with special emphasis on multiple sclerosis, basing his paper on research carried on at the H. L. Snyder Memorial Research Foundation at Winfield during the past two years.

\* \* \*

Dr. W. S. Swart, who was graduated from Barnes Medical College in St. Louis in 1899 and began practice immediately in Girard, recently observed his 50th anniversary there.

\* \* \*

Dr. A. L. Ashmore, Wichita, spoke on socialized medicine before the Minisa (Wichita) Chapter of



# WHY MANY LEADING NOSE AND THROAT SPECIALISTS SUGGEST

**"change to PHILIP MORRIS" \***

Where smoking is a factor in a throat condition,  
the physician may advise "Don't Smoke."

But where the patient persists, many eminent  
specialists suggest "Change to PHILIP MORRIS"...  
the one cigarette proved definitely less irritating.\*\*

Perhaps you too will find it advantageous  
to suggest to your throat patients  
"Change to PHILIP MORRIS." For your  
own smoking as well, Doctor, in fact for all  
smokers, Philip Morris is by far the wisest choice.



## PHILIP MORRIS

Philip Morris & Co., Ltd., Inc.  
119 Fifth Avenue, N. Y.

**IF YOU SMOKE A PIPE...** We suggest an  
unusually fine new blend—COUNTRY DOCTOR PIPE  
MIXTURE. Made by the same process as used in  
the manufacture of Philip Morris Cigarettes.

\*Completely documented evidence on file.

\*\*Reprints on Request:

Laryngoscope, Feb. 1935, Vol. XLV, No. 2, 149-154; Laryngo-  
scope, Jan. 1937, Vol. XLVII, No. 1, 58-60; Proc. Soc. Exp.  
Biol. and Med., 1934, 32,241; N. Y. State Journ. Med., Vol.  
35, 6-1-25, No. 11, 590-592.

the National Secretaries Association at a recent meeting.

\* \* \*

Dr. H. Preston Palmer, Scott City, announces that Dr. Eugene Smith, formerly of Kansas City, is now associated with him in practice and that Dr. Galen W. Fields, also of Kansas City, will join the staff of the Scott City Clinic in March.

\* \* \*

Dr. Robert E. Stowell, chairman of the Department of Oncology at the University of Kansas School of Medicine, has been appointed consultant to the Atomic Energy Commission, to the Cancer Control Division of the National Cancer Institute and to the National Institute of Health, U. S. Public Health Service, for the study section on Morphology and Genetics.

\* \* \*

Dr. J. A. Settle, who has been practicing at Walnut for the past 25 years, has announced his retirement. Before practicing in Walnut he had offices in Yukon, Oklahoma, Harris and Reading, having spent 56 years in medicine altogether.

\* \* \*

Dr. Randall Weed, Humboldt, addressed the Humboldt Rotary Club last month on the subject of state institutions and state aid to handicapped persons.

\* \* \*

Dr. Thomas G. Orr, professor of surgery and former head of the department of surgery at the University of Kansas Medical Center, performed the dedicatory operation in the new surgery unit at the university on November 21. The operation was televised for the instruction of students in an auditorium some distance away. Later that day a portrait of Dr. Orr was presented the medical school library.

\* \* \*

Dr. Herbert A. Wenner, assistant professor of pediatrics and bacteriology at the University of Kansas Medical Center, will serve this year as special consultant to the U. S. Public Health Service at its communicable disease center in Atlanta, Georgia.

\* \* \*

Dr. William S. Markham, Ottawa, has resigned as coroner of Franklin County to go on active duty in the Navy. Dr. Richard Roberts, Ottawa, is temporarily serving as coroner.

\* \* \*

Dr. James Stewart, recently retired Topeka physician, has been appointed director of the Shawnee Guidance Clinic.

\* \* \*

Dr. Marion E. Nunemaker was recently released from service with the Navy and is now in private practice in Arlington.

Dr. A. P. Cloyes, El Dorado, was speaker at a meeting of the Kiwanis club there last month and told of modern types of anesthesia.

## DEATH NOTICES

### LAWRENCE SMITH WILSON, M.D.

Dr. L. S. Wilson, 78, an honorary member of the Crawford County Society, died November 14 after having been ill since May. He was graduated from the University Medical College of Kansas City in 1896 and practiced first in Monmouth. He then spent a year in postgraduate study in Chicago, returning to Kansas to establish practice in McCune, where he remained until he became ill.

\* \* \*

### TURNER WILSON REID, M.D.

Dr. T. W. Reid, 66, physician at Gardner, was killed in an automobile accident near Gardner December 5, when returning from a country call. He had been practicing in Gardner since 1933, and had previously practiced in Wichita and Wellsville. He was a graduate of the Kansas City School of Medicine in 1907, and at the time of his death was an active member of the Johnson County Society.

\* \* \*

### JAMES EDWIN McMANIS, M.D.

Dr. J. E. McManis, 82, an active member of the Pottawatomie County Society, was killed in an automobile accident December 11 while en route from his home at Havensville to Soldier. Dr. McManis was graduated from the Medico Chirurgical College of Kansas City in 1902, and had been practicing since that time.

\* \* \*

### WILLIAM THOMAS GROVE, M.D.

Dr. W. T. Grove, 83, who retired from active practice in 1948, died at Neal November 25. He was graduated from Marion Simms College of Medicine in St. Louis in 1893, and began practice in Eureka in 1894. In 1931 he moved to Liberal and then returned to Eureka in 1939. His practice was limited to eye, ear, nose and throat.

\* \* \*

### SAMUEL MILLIGAN ANDERSON, M.D.

Dr. S. M. Anderson, 73, an honorary member of the Sedgwick County Society, died December 11 while on a visit to California. He had been practicing in Wichita for many years and before that had practiced in Clearwater. He was a graduate of the University of Illinois College of Medicine, Chicago, in 1903.

# SALT

## without

# SODIUM



# NEOCURTASAL<sup>®</sup>

When cardiac failure, hypertension, arteriosclerosis, or pregnancy complications call for a sodium free diet, you can let your patients have **salt without sodium: Neocurtasal**, the completely sodium free seasoning agent. Neocurtasal looks and is used like regular table salt.

Constituents: Potassium chloride, ammonium chloride, potassium formate, calcium formate, magnesium citrate and starch. Potassium content 36%; chloride 39.3%; calcium 0.3%; magnesium 0.2%.

Available in convenient 2 oz. shakers and 8 oz. bottles.

NEOCURTASAL,  
trademark reg.  
U. S. & Canada

NEOCURTASAL,  
trademark reg. U. S. & Canada

*Winthrop-Stearns* INC.  
NEW YORK 13, N. Y. WINDSOR, ONT.



---

## COUNTY SOCIETIES

---

Dr. J. N. Blank was named president of the Reno County Society for 1950 at a meeting held at Hutchinson recently. Dr. L. F. Glaser was elected secretary and Dr. G. E. Stone, Dr. G. E. Paine and Dr. I. E. Hempstid were chosen to form the Board of Censors. The society is interested in the circuit courses offered by the University of Kansas Medical Center at Hutchinson once each month, and half of the total number of members are enrolled for the complete course.

\* \* \*

The fourth quarterly meeting of the Central Kansas Society was held at Russell December 8. Two members of the surgical staff at the University of Kansas Medical Center, Dr. P. W. Schafer and Dr. S. R. Friesen, presented the scientific program on "Physiology of the Chest in Trauma." The following officers were elected for 1950: president, Dr. Alfred Horejsi; vice president, Dr. J. P. Haigler; secretary, Dr. W. J. Pettijohn; delegates, Dr. Horejsi and Dr. Pettijohn; board of censors, Dr. F. A. Dlabal. The next meeting was scheduled for Ellsworth with Dr. Richard O'Donnell and Dr. G. F. Davis in charge of the program.

\* \* \*

Officers of the Marion County Society were elected at a meeting held December 7 at Marion. Dr. E. S. Rich, Goessel, was named president; Dr. G. J. Goodsheller, Marion, vice president; Dr. O. C. McCandless, Marion, secretary-treasurer; Dr. E. S. Rich, Goessel, delegate; Dr. G. J. Goodsheller, Marion, alternate.

\* \* \*

A meeting of the Sedgwick County Society was held at the Broadview Hotel, Wichita, December 6. Two speakers from the University of Kansas Medical Center presented the following scientific program: "Where Do We Stand in Cancer Today" by Dr. Robert E. Stowell and "The Role of Prenatal Factors on Morbidity and Mortality of Infants and Children" by Dr. Herbert Miller.

\* \* \*

The Labette County Society elected the following officers at a meeting held in Oswego November 17: president, Dr. Guy W. Cramer; vice president, Dr. N. C. Morrow; secretary-treasurer, Dr. Thomas Purdue. A dinner meeting with members of the Auxiliary preceded the business session.

\* \* \*

A meeting of the Northwest Kansas Medical Society was held at the Masonic Temple at Oberlin November 13. Dr. C. M. Nelson and Dr. Carl E. Sixbury reported on the state conference of county

society officers held at Wichita in October and Dr. J. W. Pavelsek gave a paper on heart diseases.

\* \* \*

The Blue Cross and Blue Shield enrollment in Leavenworth County was unanimously endorsed by the Leavenworth County Medical Society at a meeting held November 14.

\* \* \*

A dinner meeting of the Anderson County Society was held November 4 at the Wayside Inn at Garnett. Dr. A. J. Turner and Dr. C. B. Harris, Sr., were made honorary members of the society.

\* \* \*

The Montgomery County Society met November 2 at Mercy Hospital, Independence, and elected the following officers for 1950: president, Dr. Steve Ellis, Coffeyville; vice president, Dr. K. J. Gleason, Independence; secretary, Dr. John Coyle, Coffeyville; treasurer, Dr. G. C. Bates, Independence; censor, Dr. J. H. Low, Coffeyville.

\* \* \*

All officers of the Barton County Society were re-elected at a meeting held November 14 at Great Bend. They are: president, Dr. David T. Loy, Great Bend; vice president, Dr. Corbin Robison, Hoisington; secretary-treasurer, Dr. Robert C. Polson, Great Bend; delegate, Dr. L. R. McGill, Great Bend; censors, Dr. Ray Leiker and Dr. R. J. Wheeler, Great Bend.

\* \* \*

Dr. J. L. Lattimore, Topeka, was guest speaker at a meeting of the Franklin County Society November 2. At the December meeting Dr. Hobart K. B. Allebach of Kansas City, Missouri, formerly of Ottawa, presented scientific movies.

\* \* \*

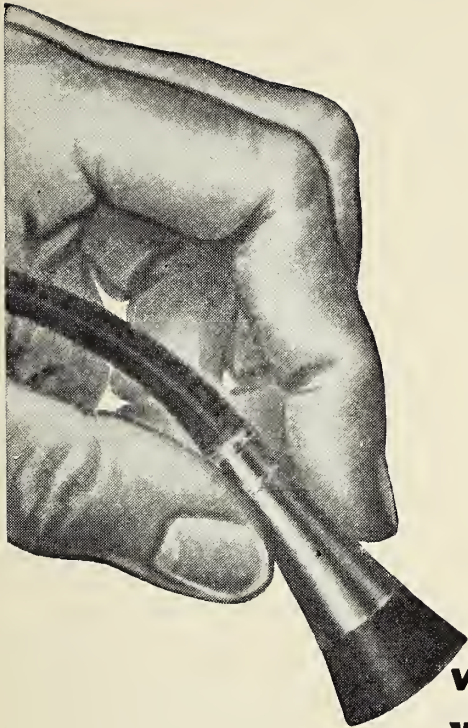
A meeting of the Cowley County Society was held at the Winfield Country Club November 23 with Dr. Albert Faulconer of the Mayo Clinic as guest speaker. His subject was "Prognosis and Treatment of Patients Suffering Severe Anoxic Accidents." The speaker's father, Judge Albert Faulconer, was host at a dinner preceding the scientific program.

\* \* \*

The Nemaha County Society and Auxiliary held a joint dinner meeting at Centralia in November. At the scientific program following, Dr. R. Dale Dickson and Dr. Vernon C. Wiksten, both of Topeka, spoke on allergies.

\* \* \*

Members of the Shawnee County Society entertained their wives at a dinner at the Hotel Jayhawk December 5. Dr. L. E. Eckles became president of the group for 1950, with the following additional officers: president-elect, Dr. Don C. Wakeman; vice



**worth consideration . . .**

## **YOUR FUTURE WITH THE ARMY OR THE AIR FORCE MEDICAL CORPS**

**Advanced medical and surgical practice** with latest and most modern equipment and techniques.

**Applied or pure research** in many areas of medical science. Facilities of military and civilian medical centers—use of civilian consultant program.

**Charted advancement** in your selected career field with less administrative burden, more opportunity to practice.

**Important personal rewards** through extra professional pay on top of base pay, food and quarters allowances, other extras. Free retirement at comparatively early age.

**Increased professional standing** through contribution to a progressive, highly-specialized field of modern medicine. The military doctor-and-officer enjoys a two-fold responsibility and authority . . . contributes doubly to national welfare!

**U. S. ARMY  
MEDICAL DEPARTMENT  
U. S. AIR FORCE  
MEDICAL SERVICE**

*Your skills are vitally important to the national security effort. Write the Surgeon General, U. S. Army, or the Surgeon General, U. S. Air Force, Washington 25, D. C., for full details about Reserve Commissions and active duty!*



president, Dr. B. J. Ashley; secretary, Dr. F. T. Collins; treasurer, Dr. E. D. Funk.

Officers of the Topeka Blood Bank, sponsored by the society, are: president, Dr. F. C. Taggart; vice president, Mr. Harry Dawdy; secretary, Dr. H. S. Blake; treasurer, Mr. Harry Nightingale; directors, Mr. Nightingale, Mr. Leslie Roach, Dr. Louis Cohen, Dr. Robert Pfuetze, Dr. Blake, Dr. A. A. Fink, Dr. J. W. Cavanaugh, Dr. Taggart, Mr. Dawdy, and Dr. Eckles.

\* \* \*

Dr. Edwin T. Wulff was elected president of the Atchison County Society at a meeting held at the Atchison Hospital December 6. Dr. Frank K. Bosse was chosen vice president; Dr. R. O. Brown, secretary-treasurer; Dr. W. O. Wallace, delegate; Dr. Spencer Fast, alternate; Dr. Winstan L. Anderson, censor.

\* \* \*

Dr. Floyd Taggart, Topeka, was guest speaker at the November meeting of the Clay County Society at Clay Center. His talk was on anesthesia.

\* \* \*

A meeting of the Butler County Society was held December 12 at the Hotel El Dorado, El Dorado. Dr. Sloan J. Wilson, Kansas City, spoke on "Common Problems of Hematology." New officers of the society for 1950 are: president, Dr. N. H. Overholser; vice president, Dr. A. L. Pettis; secretary, Dr. Karl A. Ehrlich; censor, Dr. G. W. Hammel; director, Dr. Harry Lutz.

\* \* \*

The Cowley County Society met in Arkansas City December 15. Officers were elected as follows: president, Dr. W. A. Grosjean; vice president, Dr. Jack V. Sharp; secretary, Dr. Max W. Wells; censors, Dr. C. C. Hawke, Dr. J. L. Wentworth and Dr. N. B. Fall. A scientific program was given and Dr. R. H. Maxwell of Wichita spoke on Caesarean section. Later the group met with the Auxiliary for a Christmas party at the home of Dr. and Mrs. C. O. Stensaas.

### Rural Practice Experience Required

Eleven weeks of training in the field of rural medicine will become a prerequisite for graduation from the University of Kansas School of Medicine under a new policy recently announced by Dean Franklin D. Murphy. Each senior medical student will be required to spend this length of time as an observer in the office of a general practitioner in a Kansas town of under 2,500 population.

The purpose of the program is to acquaint students with actual problems of general practice in rural areas, but it is hoped that such experience will eventually lead young doctors to practice in small

towns. Even those who later enter a specialized field will find the training valuable.

Thirty-nine Kansas physicians have been selected to serve as preceptors. The students are expected to be of assistance to them but will not actually practice since they will not have completed their training or received licenses. At the end of the period, each preceptor will make a written report to the school covering the student's interest in his work and the instructor's evaluation of the student's capabilities.

### Research Organization in Wichita

Fifty Wichita doctors were instrumental in the organization of the Wichita Foundation for Medical Research, a non-profit institution recently founded to further scientific investigations for the advancement of medical knowledge. Membership is open to physicians in Sedgwick County and all who hold degrees in the basic sciences.

Officers are: Dr. Donald P. Trees, president; Dr. L. K. Crumpacker, vice president; Dr. E. W. Crow, secretary; Dr. L. P. Warren, corresponding secretary; Dr. G. R. Tonn, treasurer; Dr. James S. Hibbard, chairman of the board of governors; Dr. Philip Cooper, and Dr. C. K. Wier, board members.

### Meeting of Society for Study of Sterility

The annual meeting of the American Society for the Study of Sterility will be held at the Sir Francis Drake Hotel, San Francisco, June 24 and 25, 1950. Complete information on the meeting may be secured from Dr. Walter W. Williams, 20 Magnolia Terrace, Springfield 8, Massachusetts.

The Society announces also that it is offering an award of \$1,000 for the best essay on the result of some clinical or laboratory research pertinent to the field of sterility. Competition is open to those who are in clinical practice as well as to those whose work is restricted to research in basic fields or full time teaching positions. The prize essay will be read at the annual meeting. Entries may be mailed to Dr. Williams at the above address until April 1, 1950.

### Congress on Obstetrics and Gynecology

The International and Fourth American Congress on Obstetrics and Gynecology will be held at the Hotel Statler, New York, May 14-19, 1950. Speakers will include, in addition to specialists in this country, physicians from Germany, Canada, Mexico, Sweden, India, Argentina, England and Belgium.

Inquiries on the program, registration and housing may be addressed to Dr. Fred L. Adair, 161 East Erie Street, Chicago 11, Illinois.



# Pure, Crystalline Anti-Anemia Factor

## IMPORTANT PRICE REDUCTION

*Economical—the new, low price of Cobione\* makes this highly potent therapeutic substance a most economical preparation.*

**Weight for Weight, the Most Potent Therapeutic Substance Known**

**Minimum Dosage—Maximum Therapeutic Activity**

**Nontoxic—Stable—Nonsensitizing**

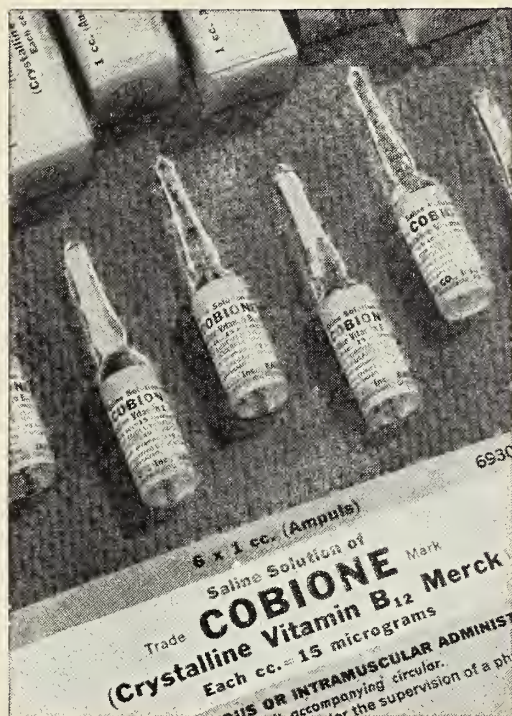
**Effective and well tolerated in patients sensitive to liver or concentrates**

## RAPID THERAPEUTIC EFFECT

Because Cobione is virtually nonirritating on injection, large doses capable in many instances of producing *rapid relief of neurologic manifestations* in pernicious anemia may be administered with this pure, *crystalline* anti-anemia factor.

## P-R-O-L-O-N-G-E-D ACTION

Large doses of Cobione also may be given without tissue irritation or induration to obtain a more prolonged therapeutic effect.



The U.S.P. Anti-anemia Preparations Advisory Board has recently advised that—with the exception of preparations of *Crystalline Vitamin B<sub>12</sub>*—it is considered to be contrary to the best interests of patients and of the medical and pharmaceutical professions for the result of unofficial assay procedures for Vitamin B<sub>12</sub> to be stated on the labels of U.S.P. Anti-anemia Preparations.

\*COBIONE is the registered trade-mark of Merck & Co., Inc. for its brand of Crystalline Vitamin B<sub>12</sub>



MERCK & CO., Inc.  
Manufacturing Chemists  
RAHWAY, N. J.

**B<sub>12</sub>**

**Cobione®**  
*Crystalline Vitamin B<sub>12</sub> Merck*

---

## BLUE SHIELD

---

### What the Members Are Saying

*O wad some Power the giftie gie us  
To see oursel as ithers see us!  
It wad frae monie a blunder free us,  
An' foolish notion.*

—Robert Burns

At the completion of payment to the physician for services to a Blue Shield member a statement indicating the amount paid to the physician is sent to the member along with the following letter inviting his opinion of Blue Shield:

Dear Member:

You are acquainted with Blue Shield, not only as one who pays dues but as one who has received its services. Let us know what you think of it. You may wish to use the enclosed form.

Also enclosed is a statement of the amounts paid your physician by Blue Shield for your care. You may have received other Blue Shield services in connection with this same illness. If so, you will receive another statement from us after the physician sends us a service report.

As you know, Blue Shield payments to participating physicians for services covered by Blue Shield are accepted in full if a single member has an income of not more than \$1,800 or if a family member has a total family income of not more than \$2,400. The physician may charge members whose incomes are more than these amounts the difference between the amount paid by Blue Shield and the customary fee for his service.

We hope that by the time you have received this note you have completely recovered from your recent illness.

One of the by-products of this follow-up with the member is the opportunity it affords to correct errors made or to clear up misunderstandings that the members may have regarding the service.

A high percentage of replies is received from members. Over 95 per cent of the replies are favorable. In fact many of them are emotional in their thankfulness and praise. Some of the replies contain constructive suggestions on the workings of the plan. However, some are critical. A representative cross section of unedited comments is printed below.

#### How Cheap Can a Baby Get?

Our baby (a beautiful, fat, red-headed girl), cost us but \$22.50—and that is because I had a private room. You paid all the doctor and hospital bill, and I got all her clothes from showers, so how can we lose? Now if someone would give me a baby buggy I would have everything for nothing. How cheap can a baby get?

You can be assured we are eager members of your happy family.

#### \$500 Peanut

In the following comment the member did not make it clear whether or not his friend is wealthy. However, one of the problems Blue Shield has lies in the sometimes vast gap between the Blue Shield payment and the physician's charge.

A friend of mine had a boy that swallowed a peanut that got stuck in the wrong tube. The boy was taken to a specialist in Kansas City to remove the peanut. His bill was in the neighborhood of \$500 of which the Blue Cross and Blue Shield paid around \$50. Naturally, this member is dissatisfied with Blue Cross and Blue Shield.

#### Prevent Political Paternalism

A minister makes the following comment.

I sincerely hope that the Community Health Plan composed of Blue Cross-Blue Shield, and made possible by the cooperation of the members of the medical profession, will continue to render the fine service it now renders, and that it will thus help greatly in preventing the advent of socialized medicine and its accompanying regimentation and control of human endeavor and activity by a government that tends more and more toward political paternalism.

#### Self Respect

As you no doubt know from your records my wife entered the hospital last August as a polio patient. She was also an expectant mother at the time and our baby was born November 11 and in the best condition. While the March of Dimes is a wonderful thing for those who are afflicted with polio it still makes me feel good to know that we have provided for so much of our own care through Blue Cross and Blue Shield.

#### Younger Generation

I am 11 years old.

It is a great satisfaction to belong to your Community Health Plan. Even if we don't use it we can be helping some other persons who need your services.

#### Unprofitable Servants

One lady, perhaps thinking that we were prideful in our statement that we had rendered service, thought she should remind us of our duty and sent in the following biblical quotation:

When ye shall have done all those things which are commanded you, say, We are unprofitable servants; we have done that which was our duty to do.—*Luke 17:10.*

#### Ought He Have to "Pay the Difference?"

Many thanks for your kindness our income was less than \$2400 the anthitec Dr. charged us \$25 I note you mailed us a check for \$9.50 Dr. thot that



# 84 YEARS...

**PIONEERING,**  
**DEVELOPING,**  
**PRODUCING**



It was in 1865 that Charles A. Page organized one of the first canned milk plants in the world. Today, with improved modern, scientific facilities, the Page family is still actively engaged in the processing of top-quality evaporated milk.

From this heritage of family know-how comes Page Milk, fortified with extra vitamin D. Addition of the sunshine vitamin, an improvement Page helped pioneer, makes Page Milk an effective preventative for rickets. Irradiated 7 dehydrocholesterol is biologically assayed, insuring an unvarying vitamin D potency.

Through the years no effort has been spared to improve processing methods and raise the nutritional standard of Page Milk.

Doctors can recommend Page Evaporated Milk with complete confidence that their patients are using a dependable, superior-quality product . . . produced by Page, a prominent name in canned milk history for more than eighty years.

**THE PAGE MILK COMPANY**  
**COFFEYVILLE, KANSAS**

General Offices: Merrill, Wisconsin





we ought to pay \$75 more than you paid him \$100 we halfto borrow the difference we appreciate the kindness you have showed

The blue cross has done evry thing we can expect many thanks. God Bless you all.

#### **Does This Happen Here?**

We appreciate what the Blue Cross does for us. But we feel we are not getting what we should from our Blue Shield. Our doctors know we have Blue Shield, and it looks to us that they add so much on to our bill. They know how much the Blue Shield will be, then add more than double that.

#### **The Way It Should Work**

The writer happens to be in a higher bracket than the \$2,400 per year for family, but my surgeon was very fair on his additional charge, and it is my understanding that most of the doctors throughout our good state are cooperating with your Association.

#### **From a Medical Assistant**

I am also acquainted with its services from a physician's assistant and secretary's standpoint and I know it is a wonderful health plan, and I am a firm believer in Blue Shield and what it stands for.

### **Residency Training Requirements**

The American Board of Obstetrics and Gynecology has not made nor is it contemplating any changes in its residency training requirements, despite rumors of an increase in training years. Eligibility requirements remain the same, namely, three years of acceptable formal training, followed by at least two years of post-training practice in the specialty.

Hospitals are inspected and approved for training jointly by the Council on Medical Education and Hospitals of the American Medical Association and the board. Approvals are granted for training periods of one, two and three years, depending on the available facilities and the findings of the survey inspections.

The board has no objection to residency services being arranged by hospitals for periods longer than three years, unless this dilutes the candidate's clinical training opportunities too much during the first three years. However, the board does not accept a fourth year, or more, of residency training as a substitute for any part of the required two years of post-training practice.

The importance of post-training practice in the specialty is emphasized as an opportunity for maturing of the candidate and for colleague appraisal of a man's ability when working on his own responsibility in his chosen community. The only exception to this ruling is in the case of men advancing from their training into full-time teaching posi-

tions. These men then must complete at least two years in such positions.

Copies of the Bulletin of the board, outlining the above requirements in more detail, are available to hospital administrators or to candidates, upon application.

### **Kansas Psychiatric Society Meets**

A quarterly meeting of the Kansas Psychiatric Society was held at the Menninger Clinic, Topeka, December 3. After the morning session a luncheon meeting was held at the Ranch House, and a business session followed the program.

Dr. Lewis Robbins introduced the speakers for the morning session. Dr. Ralph Coltharp of the Boys Industrial School read a paper, "Problems in the Treatment of Juvenile Delinquency at the Kansas Boys Industrial School," a paper of which Mr. George Webber, clinical psychologist at the school, was co-author. Dr. Richard L. Sutherland of Winter VA Hospital also presented a paper, "Correlations of the Concepts Organic, Functional and Psychic in Terms of Energy Distribution," after which there was a discussion period.

Mr. Edward Rooney, Topeka attorney, opened the afternoon discussion with a "Credo for Revisions of the Kansas Criminal Code," after which Dr. James Campbell and Dr. Dorothy Sutton of the Menninger Clinic presented a pre- and post-operative study of an eight-year-old girl who suffered from hydrocephalus.

### **Cytologic Diagnosis of Cancer**

A course in cytologic diagnosis of cancer for physicians only will be offered at Cornell University Medical College, April 17-29, 1950, under the direction of Dr. George N. Papanicolaou. It will include lectures, discussions, demonstration of slides and study of representative smears from various fluids. Tuition for the course is \$100, and applications must be submitted by March 15. A course for laboratory technicians will be offered March 20-April 1.

Inquiries may be directed to Dr. George N. Papanicolaou, Cornell University Medical College, 1300 York Avenue, New York 21, New York.

### **Grants Total \$138,726**

Fifty-five grants totalling \$138,726 in support of medical research have been awarded during the first six months of 1949 by Smith, Kline and French Laboratories of Philadelphia. The funds were provided as scholarships and fellowships, as aids to preclinical research and for the support of studies in various fields of clinical medicine.

# POSTGRADUATE COURSE IN PEDIATRICS

February 13, 14 & 15, 1950

UNIVERSITY OF KANSAS MEDICAL CENTER, KANSAS CITY, KANSAS

## FACULTY

### Guest Instructors:

EDWARD CURNEN, M.D., Associate Professor of Preventive Medicine and Pediatrics, Yale University, New Haven, Conn.

ROBERT L. FAUCETT, M.D., Surgeon, United States Public Health Service, Rochester, Minn.

MICHAEL L. FURCOLOW, M.D., Surgeon, United States Public Health Service, Kansas City.

MYRON E. WEGMAN, M.D., Professor of Pediatrics, Louisiana State University, New Orleans.

### University of Kansas Faculty:

THOMAS N. HALL, M.D., Assistant Professor of Pediatrics.

PAUL C. LAYBOURNE, M.D., Associate in Psychiatry & Pediatrics.

HERBERT C. MILLER, M.D., Professor of Pediatrics.

EDWARD RABE, M.D., Instructor in Pediatrics.

LaVERNE B. SPAKE, M.D., Professor of Otorhinolaryngology.

FREDERIC SPEER, M.D., Assistant in Pediatrics.

GALEN M. TICE, M.D., Professor of Radiology.

HERBERT A. WENNER, M.D., Associate Professor of Pediatrics.

## SUBJECTS TO BE DISCUSSED

Critical Review of Immunization Procedures.

Coxsackie Virus Causing Polio-Like Syndrome.

Treatment of Bulbar Poliomyelitis.

The Task of the Practitioner in Child Health Protection.

The Diagnosis of the Disturbed Parent.

Dynamics of Behavior of the Elementary School Child.

Diagnosis and Treatment of Deafness in Children.

Diagnosis of Congenital Heart Disease.

What is Important in Growth and Development?

Emotional Problems of Physically Ill Children.

Dynamics of Behavior of the Adolescent.

Clinical Conference.

Diagnosis and Management of Infections of the Upper Respiratory Tract.

The Role of Allergy in Respiratory Diseases.

Bacterial Infections of the Lower Respiratory Tract.

Virus Infections of the Respiratory Tract.

Panel on Roentgenologic Character of Some Respiratory Diseases.

Panel on Treatment of Respiratory Diseases of Infants and Children.

YOUR CUE FOR INFANT FEEDING  
QUALITY  
ECONOMY  
UNIFORMITY  
CONVENIENCE

### NORMAL DILUTION

Dextrogen® + Water = Formula

1 fl. oz.  
(50 Cals.)

1½ fl. ozs.

2½ fl. ozs.  
(20 Cal.  
per fl. oz.)



ADVERTISED TO THE MEDICAL PROFESSION ONLY.



## THE KANSAS PRESS LOOKS AT MEDICINE

### *Just Not Enough*

We keep reading story after story about the socialized medicine experiment in Britain, its successes and failures, the hopes, fears and disappointments of those who are working with it.

The main thing it seems to add up to is a beautiful and high-minded effort to give away that which the nation doesn't have to give. It's all free—but all isn't more than about half as much as is needed.

An example is the hospital situation.

Right now there is a waiting list of 200,000. Yet the cost of operating the hospitals last year, some 543 million dollars, was so far above expectations that Health Minister Bevan has asked the hospital boards to pare 26 million dollars from their requests for this year.

This will have to be done. The money just isn't there. Yet it will mean closing down hospital beds sorely needed. Even now 50,000 are idle for lack of nurses. And why aren't there enough nurses? Again for lack of money with which to pay them.

The idea of share and share alike is a beautiful one. But it doesn't mean much if the total amount to be shared won't go around.

And that's the whole trouble with nine out of ten ardent socialists. They see part of the population rolling in wealth while another part grovels in poverty. They think that if the goods of the wealthy could only be given to the poor, all would have enough.

What they fail to realize is that the wealthy are so few and the poor so many that when the distribution is made it is like putting a drop of cream into a quart of skimmed milk.

They are, however, gradually finding that out in England today.—*Iola Register, November 18, 1949.*

\* \* \*

### *Operating Room No Place for Socialized Medicine*

One of the best places to find one of the best arguments against socialized medicine is in an operating room of a hospital.

A visit to surgery did a lot to awaken us to the undesirability of politically dictated medicine.

Compulsory health insurance as proposed by the Federal Security administration would be very much like Britain's system of socialized medicine. And socialized medicine in England appears to be bad medicine....

Regimentation and political domination of doctors and scientists, as viewed from an operating room (or anywhere else) is about as sensible as sending an auto mechanic in to direct atomic research.

When doctors are responsible to politicians first and their patients second, the hallowed nature of their profession is bound to suffer. If the revered character of the old country doctor is to be promoted and not discouraged, voluntary health insurance will have to win over compulsory health insurance....

During a recent tour of a Kansas City, Mo., hospital, we were unexpectedly taken to the operating rooms where three major operations were being performed simultaneously. With no obstructions, we had a clear view of the operating tables, each only a few feet away....

It is an unforgettable picture. And a frame of political domination does not fit it.

The technical aspects of the actual surgery did not seem to impress us most, but instead the realization of what was being done by human minds and human hands in an attempt to improve health or sustain human life.

We were amazed at the number of professional persons required for each operation.

Six doctors, three on each side of the operating table, worked over one patient undergoing a spinal operation. They were assisted by two nurses and the anesthetist. Four doctors were required for one of the other operations in progress.

Outside the operating rooms, we commented to the hospital representative that it is easy to see why surgical care is costly. Not only from the standpoint of professional manpower but also technical needs such as the operating room and lab equipment, linens and maintenance. Working behind the scenes are skilled technicians, attendants, nurses, and supervisory personnel. Costly professional training and research fit into the picture, too.

Such a setup is going to cost money no matter how the bill is paid. Those who consider compulsory health insurance as a financial boon to the low-salary earner, especially, have but to remember that even the "little man" is not exempt from taxation.

The cost and benefits of voluntary health plans are known and guaranteed in writing. But under the compulsory plan there is no compulsion on the government to maintain standards or fulfill promises.

Under the compulsory health insurance plan, everybody with a job or income must pay a new payroll tax whether he wants the service or not. Half would be paid by the employe and half by the employer. The self-employed would pay the whole amount.

The amount to be paid by the individual is unpredictable, with estimates ranging from three to 10 per cent on every paycheck up to \$4,800. Tax economists estimate the national cost would range



Physicians' choice

*in a wide variety  
of allergic disorders*

TRIMETON  
*Schering*



TRIMETON



from four to 15 billion dollars for the first year, with possible successive increases up to 50 billion dollars. The British health system went in to the red more than 200 millions in nine months.—*M. C. F., Eastern Kansas (Catholic) Register, December 9, 1949.*

\* \* \*

#### **For More Country Doctors**

The university hospital's plan for training medical students in small towns is novel but entirely in harmony with the state's program of rural medical improvement.

The general idea is to expose students to the impacts of rural and small town life to discover, if perchance, a few of them may like it. It is just possible that some of them may, once they discover the advantages of living and working away from the big city.

One chief obstacle to the young graduate's ambition to practice in the small town is being overcome. We refer to the lack of funds to begin his practice. As has been written in numerous local and national publications, small Kansas communities are underwriting them now by providing office space and clinics, and advancing funds for equipping same. The inducements are getting results. Heretofore the young practitioner had little choice but to associate with established physicians in larger cities when he was ready to launch his professional career.

The Kansas medical improvement story is a continuing one.—*Kansas City Kansan, November 22, 1949.*

\* \* \*

#### **Another Step in Medical Plan**

Steps taken by Kansas to give the state's communities the physicians and surgeons they need are beginning to take form.

An interesting part of the Kansas program was announced this week when 39 physicians practicing in smaller cities were selected to participate in a plan to encourage young doctors to establish themselves in country practices. The plan was worked out by members of the Kansas Medical Society and Dean Franklin Murphy of the University of Kansas medical school.

The 39 physicians will be "hosts" to medical school students. Beginning in March each student, as a condition for graduation, will be required to put in 11 weeks with one of the small-town doctors. Thereby he will acquire a first-hand knowledge of country practice. Doubtless many will see the advantages of such practice and will decide to enter that field.

The new training plan is being inaugurated just as work is completed on the \$1,035,000 "D" building addition to the university medical center in Kansas City, Kansas.

The building is one of those planned in connection with expansion at the medical center. As a result, Kansas will produce more trained physicians in the years ahead.

The steps taken by the state to meet the doctor shortage situation have attracted nation-wide attention. Doubtless they will continue to do so. Kansas has shown that the old American idea of studying the needs of a problem then working out means to solve that problem still is a sound approach.—*Dodge City Globe, November 23, 1949.*

#### **National Conference on Heart Disease**

A national conference on cardiovascular diseases will be held in Washington, D. C., January 18-20, 1950, under the joint sponsorship of the American Heart Association and the National Heart Institute of the U. S. Public Health Service, it was announced recently. This will be the first national conference bringing together physicians, scientists, community service leaders, and members of allied professions to formulate a comprehensive program to combat the nation's leading cause of death.

Dr. H. M. Marvin, president of the American Heart Association, and Dr. C. J. Van Slyke, director of the National Heart Institute, made the announcement jointly, and will be co-chairman of the conference.

The conference will define and develop both immediate and long-range programs, according to the announcement. The group will also map out plans to determine how professional and lay groups concerned with the heart diseases can best work together for the most effective use of their resources for the entire community.

In addition to the various medical disciplines, the meeting will include representatives in the fields of nursing, social work, hospital administration, rehabilitation, public health and others concerned with various aspects of the heart disease control program. This varied representation, said the announcement, will provide "a cross-fertilization of ideas necessary for fruitful achievement."

The American Heart Association was organized 25 years ago as a scientific body and was recently reorganized and expanded to become the only national voluntary health agency concerned exclusively with heart and circulatory disease. The National Heart Institute was created by Act of Congress in 1948 as one of the Public Health Service's National Institutes of Health at Bethesda, Maryland. The Institute, besides conducting its own program of research, supports also both fellowships and research in medical schools, hospitals, and laboratories with funds appropriated by Congress.





## Woodcroft Hospital—Pueblo, Colorado

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.

## What's Behind an Ampoule?

A FORMULA, a couple of machines and a label?  
... That's about it—for *just any* ampoule.

But the careful physician won't settle for just  
any product—ampoule or otherwise.  
When he prescribes, he wants the label to  
signify—beyond the shadow of a doubt—  
a clean manufacturing record, preferably  
one stretching back a generation or more;  
unfailing adherence to controls;  
a research program with adequate staff  
and facilities; and for final confirmation, a  
place on the roster of Council accepted products.

You need settle for nothing less when  
you specify medication labeled

# Dorsey



THE SMITH-DORSEY COMPANY  
LINCOLN, NEBRASKA  
BRANCHES AT LOS ANGELES AND DALLAS

MANUFACTURERS OF FINE  
PHARMACEUTICALS SINCE 1908



## ABSTRACTS FROM CURRENT LITERATURE

### Anastomosis of the Colon

*One Stage End-to-End Anastomosis of the Colon.* By George P. Rosemond, Surg., Gyn. and Obs., 88:2, 209-218, Feb. 1949.

An excellent review of the history of surgery of the colon is presented, and a survey is made of 79 cases of end-to-end stage anastomoses of the colon performed at Temple University between 1945 and 1947. Twenty-eight anastomoses were by open technic and 55 were by the closed, or aseptic technic. Three cases of peritonitis occurred. These were all in the group in which the closed technic was used and the author concludes that the hazards of infection with the open technic under modern chemotherapy are less than are those of the closed technic wherein a less satisfactory suture line can be established.

With respect to decompressions, it is felt that in low lesions a tube passed from below through the anastomosis seems to eliminate the necessity for a proximal vent. In higher lesions which have a good blood supply and are uncomplicated, a proximal vent is considered unnecessary at the time of operation and may be performed later if evidence of obstruction or leakage so indicates.—T.P.B.

\* \* \*

### Infantile Diarrhea

*Disturbances of Water and Electrolytes in Infantile Diarrhea.* By D. C. Darrow, E. L. Pratt, et al, Ped., 3:2, 129-156, Feb. 1949.

Effective replacement of water and electrolyte in patients with diarrhea should be based on exact knowledge of changes in composition of body fluids. A detailed discussion is presented where the balances of water, nitrogen, chloride, sodium, potassium, phosphorus and calcium are reported in eight cases of diarrhea.

The authors consider a probable deficit of potassium is dangerous in diarrhea, chiefly because of injury to the heart. Too much sodium chloride increases this effect. After the authors started using potassium in conjunction with the sodium salts, gross edema almost never developed. They also feel potassium therapy is likely to prove its value chiefly in improving the cardiac function. If the patient shows "medical shock" the potassium salts should be omitted until adequate whole blood or plasma have been given. The oral potassium, lactate-glucose permits repair of the body water and electrolyte without prolonged parenteral therapy.

In treating over 250 cases in New Haven and Texas, it has been possible to reduce the mortality

to less than one per cent, in moderate to severe diarrhea.—D.R.D.

\* \* \*

### Section of the Pancreatic Duct

*Consequences of Section of the Pancreatic Duct.* By H. L. Popper, Sur., Gyn. and Obs., 88-2, 254-258, Feb. 1949.

The author makes a study on 50 dogs of the consequences of section of the pancreatic duct. He notes that if the animal has been starved before and after surgery an arrest of pancreatic secretion occurs and the omentum will attach itself to the wound of the pancreas and plug the opening. If, however, the animal has been fed either before or after operation, extensive abdominal fat necrosis results. A similar effect is noted following the administration of vagotonic drugs, such as pilocarpine or prostigmine. The effect is inhibited by atropine and related drugs.

The following suggestions are offered for clinical trial:

1. Where it has been necessary to ligate the pancreatic duct, omentum should also be attached.
2. When the pancreas itself has been injured, omentum should be attached.
3. Where elective surgery may involve the pancreas, pre-operative and post-operative starvation seem advisable and vagotonic drugs are to be avoided.—T.P.B.

\* \* \*

### Sporadic Goiters

*The Use of Bismuth Salts in the Treatment of Sporadic Goiters.* By Manuel Villaverde, Jnl. Clin. Endoc., 9:5, 462-466, May 1949.

The studies to be described were inspired by the observation that goiter might occasionally reduce in size during bismuth salt therapy for syphilis.

The two salts used were bismuth subsalicylate and heptadiencarbonate. One or two injections weekly were given, a course consisting of 20 injections. An interval of two to four weeks was allowed between courses. In most instances, two or three such courses were necessary to obtain results. Usual precautions against bismuth intoxication were taken.

Ten patients with diffuse goiter were treated. Five showed marked reduction in gland size, two showed slight improvement, and treatment failed in three instances.

Six patients with nodular goiter were treated. Three showed great improvement, one improved slightly, and two failed to improve.

When hyperthyroidism was present, bismuth did not appear to influence the course of the disease. However, when hyperthyroidism was first controlled with thiourea derivatives, bismuth would reduce the size of the gland.—E.J.R.

PLAN NOW TO ATTEND THE  
**SIXTH ANNUAL CLINICAL CONFERENCE**

CHICAGO MEDICAL SOCIETY

February 28, March 1, 2, and 3, 1950

PALMER HOUSE

CHICAGO 3, ILLINOIS

A four day meeting planned to keep you abreast of the latest developments in scientific medicine.

A group of outstanding men will present an excellent scientific program.

COLOR TELEVISION will be beamed from one of Chicago's large hospitals direct to the Palmer House.

Many instructive scientific and technical exhibits.

MAKE YOUR RESERVATIONS DIRECT WITH THE PALMER HOUSE

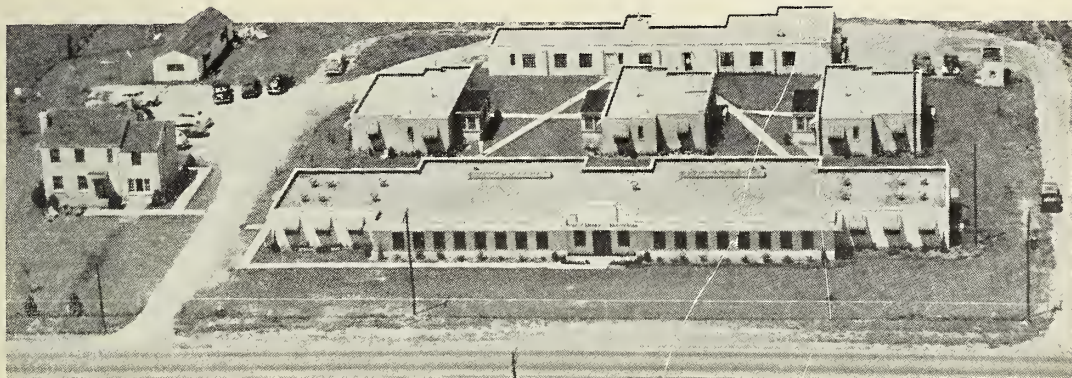
1850—*The One Hundredth Anniversary of the Chicago Medical Society*—1950

**THE SPENCER ROAD SANITARIUM**

Northeast 23rd and Spencer Road

Phone 54-8405

OKLAHOMA CITY, OKLAHOMA



ESTABLISHED IN 1939

for treatment of

NERVOUS AND MENTAL DISORDERS

Coyne H. Campbell, M.D., F.A.C.P., F.A.A.P.

R. E. Carpenter, M.D.

Harold G. Sleeper, M.D.

Irene Jennings, R.N., Supervisor

J. H. Barthold, Business Manager



---



---

## BOOK REVIEWS

---



---

*Handbook of Surgical Urology for Internes, Hospital Corpsmen and Nurses.* By Nelse F. Ockerblad, M.D., F.A.C.S. Published by The Williams & Wilkins Company, Baltimore. 189 pages, 52 illustrations. Price \$3.00.

This handbook adequately acquaints the reader with the technical instruments and procedures peculiar to the specialty of urology. It is written in the pleasant essay style with which Dr. Ockerblad's readers have become familiar.

For the lay personnel connected with the immediate care of urology patients, this handbook explains not only the details of how to carry out procedures, but why such procedures are indicated, and it will thus stimulate more interest in their problems.

For the urology house staff this handbook will provide valuable quick reference concerning their everyday problems. For all readers, a fascinating sketch of the history of this specialty is provided.—A.D.M.

\* \* \*

*Review of Nursing.* By Editorial Panel, C. V. Mosby Company, St. Louis. 704 pages. Price \$5.75.

This book has been prepared by a group of nurse educators as a study outline of subjects taught in a basic course in nursing. The material has been quite carefully outlined. There is danger, however, that drill in question and answers may be substituted for concept of total nursing care.

There is little attempt at integrating social and health aspects of knowledge of physical and biological sciences in any of the clinical areas. The questions might be useful to an inexperienced instructor as they are well organized and represent variety of objective type questions.

The text is reinforced by the inclusion of adequate references. Since there is no possible way in keeping these books up to date it will decrease in value within a year or two. The size of print is good and students might find it helpful in reviewing subjects which they had studied some time previously.—J.M.H.

\* \* \*

*Ward Administration and Clinical Teaching.* By Gipe and Sellew. Published by C. V. Mosby Company, St. Louis. 357 pages. Price \$5.75.

The aim of this book is to present to the head nurse simple, workable principles of administration as they apply to a unit of the hospital. It gives a careful analysis of the head nurse's function as administrator and teacher. Each facet of her responsibility is examined in considerable detail. The values

of scientific method and of reflective thinking in studying administrative problems are emphasized as bases for planning action.

Details of cost accounting, of rating scales for workers, of assignment sheets, of studying nursing service requirements are of value to the student of administration. The nurse is introduced to the wider field of community responsibility briefly; one would welcome more emphasis on this newer trend of considering the hospital as the center of health services in the community.

The inter-relationship of the members of the professional health team is explored, and the responsibilities of the various members discussed.

While some question might be raised concerning examples included, the values and philosophy of clinical instruction would be generally accepted. There is some danger in giving such details of method that the less experienced head nurse would be discouraged and the more experienced does not need it.

The bibliography is extensive and well selected. Quotations and references are carefully footnoted throughout the text.

This should be a valuable reference book for use by the individual or group in studying ward administration and teaching.—J.M.H.

\* \* \*

*Self Teaching Tests in Arithmetic. Third edition.* By Ruth W. Jesse. Published by C. V. Mosby Company, St. Louis. 122 pages. Price \$2.00.

This text is written as a series of self-teaching tests. Two divisions are made; Part I covers the fundamental facts about numbers and Part II contains solution problems. Two-thirds of the book is devoted to Part I and the very simplest types of addition, subtraction, multiplication, and division problems are presented. The problems increase in complexity as the text progresses. The apothecary system of measures is introduced in this unit and the explanation of how to determine equivalents is well presented. Following each group of tests are the answers to the problems. Only the very poorest students in mathematics would need the amount of review given in this section. This part could successfully be used by the student nurse prior to entering a school of nursing.

Part II presents the various types of problems which will be encountered by the students in preparing drugs and solutions. The explanation in this section is good and a wide variety of problems is given. The situations given are reasonable and many have a practical application. Again, the answers of the problems follow a group of tests. This is a questionable value if the text is used in a class of dosages and solutions.

Medical and surgical supplies for Kansas doctors of Medicine and Hospitals

# Munns Medical Supply Co., Inc.

512 Kansas Avenue  
Topeka, Kansas

456 New Brotherhood Building  
Kansas City, Kans.

## RADIUM

(including Radium Applicators)

FOR ALL MEDICAL PURPOSES  
Est. 1919

Quincy X-Ray & Radium Laboratories

(owned and directed by a Physician-  
Radiologist)

Harold Swanberg, B.S., M.D., Director  
W. C. U. Bldg. Quincy, Illinois

*The Neurological Hospital, 2625 The  
Paseo, Kansas City, Missouri. Oper-  
ated by the Robinson Clinic, for the  
care and treatment of nervous and  
mental patients and associated condi-  
tions.*



## PHARMACEUTICALS

A complete line of laboratory controlled  
ethical pharmaceuticals. Chemists to the  
Medical Profession since 1903. KA-1-50

THE ZEMMER COMPANY, Pittsburgh 13, Pennsylvania


## PROVEN IN ACTUAL USE

( FOR OVER A YEAR )

... that only the NEW AO 2390A Trial Frame  
offers so many advantages

For more than a year American Optical Company has  
been delivering a completely new No. 2390A Trial Frame to  
professional users. Many have acclaimed its accuracy, strength,  
comfort and easier, more positive operation. If you have not  
already had the opportunity to see and try this outstanding new  
ophthalmic instrument, call or write your AO representative today.



American  Optical  
COMPANY



*The Eye and Its Diseases. Second edition. By Conrad Berens. Published by W. B. Saunders Company, Philadelphia. 1042 pages, 436 illustrations, 8 color illustrations. Price \$16.*

Ninety-two international authorities have contributed to this comprehensive volume covering the entire field of ophthalmology and bringing up to date the first edition published 13 years ago. While the outline of the original edition has been followed, the detailed index has been revised, new illustrations have been added, and chapters on illustration, physiologic chemistry and gonioscopy have been included. Each contributor has revised his section of the book, and there has been careful selection of accepted advances in therapeutics, particularly with respect to the antibiotics.

Careful editing has prevented the overlapping of material sometimes found in volumes prepared by a large number of contributors. Fourteen sections are included in the collection: (1) Embryology and Anatomy, (2) Physiology and Physiologic Optics, (3) Examination of the Eye, (4) Refraction and Accommodation, (5) Diseases of the Eye, (6) Medical Ophthalmology, (7) Movements of the Eye-balls and their Anomalies, (8) Injuries of the Eye, (9) The Eye and the Nervous System, (10) Treatment, (11) Preventive Ophthalmology, (12) Immunology, (13) Legal Aspects of Ophthalmology, (14) Laboratory Diagnosis. Surgical procedures are included in 14 articles in the section on treatment.

This is a reference volume of value to the practicing ophthalmologist, the general practitioner, or to any medical specialist who desires authoritative information on the eye and its diseases.—D.J.S.

#### CLASSIFIED ADVERTISEMENTS

**STAFF PHYSICIAN WANTED.** Institution offers good salary, all equipment and facilities. Write the Journal 14-49.

**SURGEON AVAILABLE.** General surgeon wants location in clinic group or information on location for individual practice. Write the Journal 15-49.

**FOR SALE**—Fischer diathermy machine, Type G, Hanovice Alpine sun lamp with bulb and upright, Koken hydraulic lift examining chair, instrument stand, supply cabinet with three drawers, flat top table with mattress. Write the Journal 17-49.

**FOR SALE**—Office equipment and small instruments, x-ray machine, instrument case, irrigation stand, two operating tables, chairs, etc. Will take \$300. Write the Journal 16-49.

#### Essays on General Practice

The 10th annual essay contest of the Mississippi Valley Medical Society will be held in 1950. A cash prize of \$100 will be awarded for the best unpublished essay on any subject of general medical interest, including medical economics and education. Contestants must be members of the American Medical Association who are residents and citizens of the United States. Complete information may be secured from Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.

We have learned that you cannot put a patient's mind in a cast. The tuberculosis experience is an interesting example of this. The great problem of the tuberculosis sanatorium is people leaving against medical advice. We have been foolish enough to expect patients to rest idly in bed and not to worry, but worries about families, jobs or money, go round and round in their heads until they decide to give up treatment and go home.—Howard A. Rusk, M.D., National Foundation for Infantile Paralysis.



TOPEKA Office:

J. E. McCurdy, Rep.

1160 College Avenue,

Telephone 2-3027

Nationally advertised Surgical Supplies and Equipment have been placed at Topeka, Joplin, Kansas City and St. Joseph for your convenience by —

**GOETZE NIEMER CO.**

Management by Dr. W. F. Goetze, a member of the American Medical Association, assures intelligent servicing of your orders.

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

FEBRUARY, 1950

No. 2

## Tropical Disease Infections Among Veterans\*

Thomas T. Mackie, M.D.\*\*

Winston-Salem, North Carolina

Infections included in the group of so-called tropical diseases have played a highly important, and at times determining, role in the outcome of wars. Particularly is this true of malaria, dysentery, epidemic louse-borne typhus and relapsing fever. The first world war was no exception and it was the experience of the British, the French, the German and the Russian armies in the period from 1914 through 1920 that created much of the concern about the medical problems inherent in the world-wide military operations of the past war.

In Gallipoli, Macedonia, the Near East, East Africa and the Balkans the incidence of tropical disease among the armies determined to a high degree the outcome of the first world war. Epidemic typhus in the Balkans prevented a drive by the German army under Von Mackensen to the Mediterranean. In Macedonia the French army was immobilized by malaria. Epidemic bacillary dysentery defeated the British in the Gallipoli campaign and necessitated the ultimate evacuation of the peninsula. Malaria again played a dominant role in the minor campaigns in East Africa.

As the national emergency developed in this country during the years 1940 and 1941 it became increasingly apparent that the United States would inevitably be drawn into the conflict and that we would be called upon to conduct major military and naval operations in many regions where tropical diseases are highly endemic. The hazard was obvious long before Pearl Harbor. At the request of the Surgeons General of the Army, the Navy and the Public Health Service, the National Research Council established a group of scientific committees to function in a consultative and advisory capacity to the services. Among these was the Sub-committee on Tropical Diseases which functioned continuously throughout the war. A further preparatory step was

taken in the summer of 1941 when a formal course in Tropical and Military Medicine was inaugurated at the Army Medical School, Army Medical Center, Washington, D. C.

The actual outbreak of war in December 1941, however, found us ill-prepared to engage in global war throughout the tropics. An alarmingly small number of physicians had had formal training and field experience in tropical medicine. Many of these scarce individuals were occupying essential posts from which they could not be spared to the armed forces. Medical educators in the previous years had never anticipated that this, to them unimportant, group of diseases might constitute the greatest threat which this country had had to face. Medical school curricula consequently paid little attention to the diseases of the warm climates and even the infections known to be endemic in the southern United States were regarded principally as fields of more or less academic research. The implications are obvious and today we are seeing the late results among many of our veterans. Military and naval hospitals generally speaking had a greatly inadequate number of clinicians and laboratory technicians trained in tropical medicine and medical parasitology. Attention necessarily was focused upon battle casualties and acute medical conditions. Among the tropical diseases the high incidence of malaria and the severity of the clinical phenomena overshadowed other less dramatic conditions. It was inevitable that many sub-acute infections of other types went unrecognized.

Our great medical achievement in the field of the control of these communicable infections was in a sense fortuitous. Although our profession was unprepared to meet the specialized problems, the tools were at hand which permitted us to conduct successfully extensive operations in the tropics around the world and to achieve a general health record in the armed forces never before approached in any war. These tools were the sulfonamides, atabrine, DDT and the newer insect repellents. The com-

\*Presented before the 90th Annual Session, Kansas Medical Society, Topeka, Kansas, May 10, 1949.

\*\*Professor of Preventive Medicine; Director, Institute of Tropical Medicine, Bowman Gray School of Medicine.



petent use of these preparations enabled us in most areas to avoid a serious non-effective rate in our combat personnel, and secondarily, through the application of blockade in many Japanese occupied areas of the Pacific to utilize endemic tropical disease as an offensive weapon which enabled us greatly to limit battle casualties.

Serious threats and serious effects from tropical disease were not absent, however. Malaria, especially in the early years of the operations in the southwest Pacific, took an enormous toll because of the difficulty in attaining adequate malaria-control discipline. Atabrine, however, when properly used permitted the successful undertaking of operations which would have been totally impossible in the pre-atabrine days.

Epidemic louse-borne typhus appeared in North Africa and in Naples. The appropriate use of DDT circumscribed these outbreaks and rendered them matters of academic interest to preventive medicine as an effective demonstration of another great advance in disease control, rather than as major threats to military operations. Bacillary dysentery proved to be a far less serious problem than had been anticipated, partly because infections by the highly toxic Shiga bacillus proved to be rare, but particularly because the sulfonamide drugs, notably sulfaguanidine, were in the majority of instances rapidly curative. It was possible to prevent the serious epidemic outbreaks of the first world war and to avoid the relatively high incidence of complications. Two to three per cent of the cases of this disease in the first war became chronic and progressed into the clinical syndrome of chronic ulcerative colitis.

Despite these more effective instruments of therapeutic and preventive medicine the tropical diseases took their toll.<sup>1</sup> The incidence as reflected by causes of admission to service hospitals during the war was extraordinarily low in view of the numbers of overseas personnel and the extent of the military and naval operations in many of the most dangerous tropical areas of the world.

TABLE 1. TROPICAL DISEASES IN THE ARMED FORCES 1942-1945

Disease	No. Cases Army	No. Cases Navy	Total
Dysentery and diarrhea	523,449	233,400*	756,849
Malaria	462,060	110,890	572,950
Infectious hepatitis	172,000	19,574	191,574
Dengue	84,100	57,508	121,608
Hookworm	13,000*	6,943	19,943
Filariasis (Bancroft)	2,150	11,859	14,009
Sandfly fever	12,400	234	12,634
Scrub typhus	6,861*	560	7,421
Amebic dysentery	3,051	1,453	4,504
Schistosomiasis	1,636	36	1,672
Typhus, endemic	491*	402	893
Leishmaniasis	346	15	361
Relapsing fever	220	19	239
Smallpox	116	9	125
Typhus, epidemic	61*	2*	63
Cholera	14	0	14
Trypanosomiasis	2	3	5

\* Estimated

It must be remembered, however, that these figures are merely a measure of the problem of acute disease of sufficient severity to require hospitalization. They are not a valid indication of the numbers of individuals infected. Morbidity rates in contradistinction to hospital admission rates are not known. Two important characteristics of certain of the tropical and parasitic infections are latency and chronicity. These characteristics alone make it certain that for every infection identified during the period of active service there must have been numbers which escaped recognition and adequate treatment. Furthermore the army and navy hospitals did not have the staffs, the facilities or the time to undertake more than the therapy of immediately disabling conditions. Only a small portion of the individuals with active clinical symptoms were admitted to hospital. Many received symptomatic treatment at their battalion or regimental aid stations and remained on duty in their units. Many men who might have been hospitalized preferred to remain with their "outfits" rather than risk the uncertainty of reassignment through a replacement center following discharge from hospital.

It was recognized during the war that following the cessation of hostilities thousands of individuals carrying latent and unrecognized infections would be returned to the United States. Serious consideration was given to the possibility of surveying these men before discharge at the separation centers. This, however, was not a practicable measure in view of the enormous numbers and the demand for immediate demobilization. Many individuals declined to admit the existence of symptoms when questioned in the course of the final physical and medical examination since they rightly feared that this might delay their return to civilian life. It was inevitable that many left the service with no formal record of symptoms or of a diagnosis of an infection acquired in the course of their service.

The concern about the release of infected individuals was based in part on the fear that new disease agents or strains of higher virulence might be introduced into our civilian population and become endemic thus creating public health problems of potentially serious magnitude. Particularly was this true of malaria. These fears have not materialized; but in their place we have the problems of individual veterans which are far more numerous and ultimately will probably prove far more costly than the service hospital admission rates were thought to indicate.

The latency and chronicity of certain of the tropical infections frequently lead to long delay in the appearance of characteristic clinical phenomena after the period of exposure. The probability of multiple infection—a doctrine fundamentally at variance with

the unitary philosophy of disease emphasized in the conventional teaching of medicine of the temperate zone—is a characteristic of medicine in the tropics. Consequently when symptoms develop they are often atypical. Relapsing vivax malaria has greatly obscured the medical problems of many veterans. It is usual to find that chronic symptoms and disability have been erroneously attributed to this infection. Similarly disproportionate importance has been placed on so-called combat fatigue. Too often the diagnosis of psychoneurosis is made by exclusion of the usual familiar causes of chronic disability without adequate consideration of the possible role of chronic parasitic infection.

It would be hazardous to attempt to present a strictly limited list of the tropical infections which may cause chronic disease in returned veterans. Certain conditions unquestionably belong in this category. Amebiasis, bacillary dysentery, diarrheal disease of undetermined type, hookworm infection particularly by *Ancylostoma duodenale*, filariasis, schistosomiasis, infectious hepatitis, and leishmaniasis all may present the problems of chronicity and the development of late complications. Malaria is deliberately omitted because of the transitory nature of infections by *Plasmodium falciparum* and because relapsing vivax malaria is rarely if ever a threat to life or a cause of permanent disability. It has now largely disappeared from our veteran population.

In April of 1947 the writer established a clinic for the diagnosis and treatment of tropical and parasitic infections among veterans in the Regional Office, the Veterans Administration, Winston-Salem, N. C. In the past 24 months a total of 696 veterans have been subjected to competent laboratory diagnostic investigation. This total does not include all veterans seen in the Tropical Disease Clinic since the available laboratory facilities did not permit routine examination of all patients. The detailed findings are presented in Tables II and III.

The individuals included in this study are a doubly selected group. In the first place, with few exceptions, they comprise veterans already service-connected for some tropical infection or veterans who were referred to the clinic by some other division of the Regional Office because such infection was suspected. Secondly, because of the inadequate laboratory facilities it was necessary to restrict examination to those whose symptom complexes suggested the probability of infection. Therefore it must not be inferred that the infection rates found in this group are to be anticipated in the total veteran population. The high incidence of infection despite the factor of selection suggests that these conditions are far more prevalent among veterans than had been suspected. More important

are the facts that with very few exceptions the infections were not only clinically significant in the sense of their association with a handicapping chronic disability, but that the individuals had not previously had accurate diagnosis or effective treatment.

*Diagnostic methods.* Examinations for malaria have invariably consisted of study of thick and thin blood films stained by Giemsa's method.

In cases of known or suspected filariasis the stained thick and thin blood films have been supplemented by skin tests using *Dirofilaria* antigen. Microfilariae have never been demonstrated. Although a small number of veterans have been seen with apparent residuals of filariasis, in no instance have these been severe. There has been no case of elephantiasis and there is no evidence to support fears that this late complication will occur.

In the case of parasitic infections of the intestinal tract, initially the veteran was required to supply a normally passed stool on each of three successive days. Over a year ago, this procedure was abandoned. Since then the individual to be examined is instructed to report to the laboratory at nine o'clock in the morning. He is then given one ounce of magnesium sulphate in 200 cubic centimeters of water and held until a minimum of three stools have been obtained. This has proved to be a valuable modification of the earlier technique since it permits completion of the examination in one day and it has resulted in a significant increase in the percentage of positive findings. Each stool specimen is examined by direct microscopy and after concentration by the acid ether and the zinc sulphate flotation technique.

TABLE II: INCIDENCE OF TROPICAL AND PARASITIC INFECTIONS

Total patients examined for malaria....	89	
Total positive .....	17	19%
Total examined for filariasis .....	23	
Total positive to skin test.....	15	65%
Total examined for intestinal protozoa and helminths .....	696	
Total positive .....	403	57.9%

Clinical malaria has ceased to be a problem. The great majority of the infections have terminated. The acute episodes which have been seen for the most part have been mild in degree and rarely have they been found to be a valid cause of chronic disability. The real importance of the plasmodial infections lies in the frequency with which the history of infection or the occasional demonstration of parasitemia have been accepted as adequate explanation for chronic illness. In the great majority of such instances other agents have been shown to



be responsible. Without exception the malarial parasite found has been *Plasmodium vivax*.

TABLE III: INCIDENCE OF INTESTINAL INFECTIONS

Total patients examined.....	696	
Average number of stools examined per patient .....	4.4	
Total patients positive .....	403	57.9%
PROTOZOA:		
<i>E. histolytica</i> .....	240	35%
<i>E. coli</i> .....	81	
<i>E. nana</i> .....	244	
<i>D. fragilis</i> .....	54	
<i>I. butschlii</i> .....	5	
<i>G. lamblia</i> .....	17	
<i>T. hominis</i> .....	20	
HELMINTHS:		
Hookworm .....	60	9%
<i>A. lumbricoides</i> .....	8	1%
<i>S. stercoralis</i> .....	14	2%
<i>T. trichiura</i> .....	28	4%
<i>S. japonicum</i> .....	3	
<i>Taenia sp.</i> .....	1	
<i>F. buski</i> .....	1	
<i>Hymenolepis nana</i> .....	1	
<i>Trichostrongylus sp.</i> .....	1	

Infection by *Endameba histolytica* has proved to be the outstanding problem among these veterans. Two hundred and forty or 35 per cent of the group examined have been found to be infected. The great majority give a history of periodic attacks of diarrhea while in service. The majority were never hospitalized. Since separation the story is that of recurrent episodes of mild diarrhea alternating with periods of constipation or normal bowel function. True dysentery has proved to be extremely rare. No case of amebic hepatitis or of liver abscess has been seen. In many instances there has been no particularly significant disturbance of bowel function and the chief and continuing complaints have been chronic but atypical gastro-intestinal symptoms including mild pain or abdominal discomfort, indigestion, flatulence, and occasionally symptoms suggestive of transitory pylorospasm. Perhaps the most striking symptoms have been extreme susceptibility to fatigue, inability to gain weight, the nervous and emotional phenomena usually included in the category of the manifestations of psychoneurosis, and intolerance of fatty or greasy foods and alcohol. The response to specific therapy is usually dramatic and convincing.

Sixty, or 8.6 per cent, have been found infected with hookworm. Only one instance of true hookworm disease has been encountered. In several instances, however, the patient has complained of epigastric pain or discomfort suggestive but not

entirely typical of duodenal ulcer or pylorospasm. A limited number of these individuals whom it has been possible to treat and from whom the adult worms were recovered were found to be carrying *Ancylostoma duodenale*.

Infection by *Trichuris trichura* has likewise appeared to be responsible for chronic gastro-intestinal symptoms best described as indications of irritability of the intestinal tract with loose stools and varying degrees of abdominal discomfort.

None of the cases of schistosomiasis presented evidence of heavy infection or of advanced disease although mild symptoms apparently due to this parasite were present.

#### Summary

Our two years' experience in the Tropical Disease Clinic of the Regional Office of the Veterans Administration, Winston-Salem, N. C., indicates that a problem of some importance in the field of chronic tropical disease exists among our veteran population. The magnitude of this problem cannot be evaluated until a survey of an adequate sample of the veteran population has been made. The incidence of clinically significant infections in this group demonstrates that there are considerable numbers of individuals suffering from handicapping but curable infections. Such partially disabled individuals constitute an economic burden on the community. At best their earning power is reduced. Many are drawing disability allowances from the federal government for correctible conditions because of erroneous diagnosis.

The essence of the problem as we have seen it lies in the difficulty the individual veteran experiences in obtaining either accurate diagnosis or competent treatment of tropical infections. A disturbingly small proportion of the patients have had a correct diagnosis prior to their study in the clinic. Too often the clinical symptoms are accepted as evidence of psychoneurosis from conventional medical studies which do not include competent evaluation of possible tropical and parasitic infection. It is an unfortunate fact that once the diagnosis of psychoneurosis is accepted as the diagnosis of record, the veteran rarely receives the benefit of further comprehensive medical study of possible contributory causes.

This failure to recognize the potential importance of chronic tropical infections must not be regarded as grounds for criticism of the Veterans Administration. The great majority of the practitioners of medicine in this country are unfamiliar with this group of diseases. Technicians in diagnostic laboratories are rarely adequately trained in medical parasitology. The Veterans Administration therefore is faced with essentially the same problem that faced

the medical services of the armed forces at the outbreak of the war. These problems of veterans exist because of the lack of fully competent diagnostic services in the country as a whole.

The war did not result in the importation of new and hazardous infections into the United States. There has not been any increased disease endemicity. The importance of tropical infections among veterans lies in the effects of the chronic infection on the individual himself and not in any hazard of spread. In our experience chronic infections by the

*Endameba histolytica* constitute the major problem in this field of medicine at the present time. The solution for the individual veteran is in the hands of the general practitioner who recognizes the potential significance of a history of foreign service in an endemic area of the world, chronic ill-health and a symptom-picture that does not conform to a well-defined clinical entity.

#### Bibliography

1. Sapero, James J.: Tropical Diseases in Veterans of World War II. N. E. J. of Medicine 235:843-846, Dec. 12, 1946.

## 91st Annual Meeting KANSAS MEDICAL SOCIETY

May 15-18, 1950

Wichita, Kansas

The scientific program, presented by a group of outstanding guest speakers, will be of interest to general practitioners as well as specialists. The specialties represented and the speakers who will take part are as follows:

Anesthesiology . . . . .	John Adriani, M.D., Tulane University New Orleans, Louisiana
Dermatology . . . . .	Arthur Robertson Woodburne, M.D. Denver, Colorado
E. N. T. . . . .	Paul M. Moore, M.D. Cleveland, Ohio
Eye . . . . .	John C. Long, M.D. Denver, Colorado
Internal Medicine . . . . .	Cyril Mitchell MacBryde, M.D. St. Louis, Missouri Samuel Bernard Nadler, M.D., Tulane University New Orleans, Louisiana Sloan Jacob Wilson, M.D., University of Kansas Kansas City, Kansas
Obstetrics and Gynecology . . . . .	Edward Needham Smith, M.D. Oklahoma City, Oklahoma
Orthopedics . . . . .	Harold Augustus Sofield, M.D. Chicago, Illinois
Pediatrics . . . . .	James Bosma, M.D., University of Utah Salt Lake City, Utah
Psychiatry . . . . .	Robert Henry Crede, University of California Berkeley, California
Surgery . . . . .	Virgil Sheetz Counsellor, M.D., Mayo Clinic Rochester, Minnesota
Urology . . . . .	Grayson Carroll, M.D. St. Louis, Missouri

#### Scientific Exhibits

The Committee on Scientific Exhibits, James B. Fisher, M.D., Chairman, solicits the cooperation of all members of the Society in presenting an outstanding series of exhibits this year. Members are requested to make reservations for space now, giving the titles of their exhibits, the amount of space required, and a list of equipment needed, electrical outlets, tables, chairs, etc. Reservations for space are to be sent to

Scientific Exhibits Committee  
1003 Schweiter Building  
Wichita, Kansas



# Duplication of the Alimentary Tract: Report of One Case In The Small Intestine

G. F. Helwig, M.D., and W. M. Mills, M.D.

Topeka, Kansas

Duplications of the alimentary tract are rare developmental anomalies which are found in relation to any portion of the alimentary tract, usually the small intestine. These anomalies may be spherical or tubular and vary in size but closely resemble the gastro-intestinal structures.

Many names have been given to this malformation and include such terms "enterogenous cyst," "enteric cyst," "inclusion cyst," "ileum duplex," "giant diverticulum," etc. Meckel's diverticulum is an entirely different abnormality.

*Embryology.* The embryology has been explained by a number of theories. Some writers have described these anomalies of the small bowel in relation to Meckel's diverticulum but this would not account for the anomalies in part of the alimentary tract other than the distal portion of the ileum, and even then Meckel's diverticulum is on the anti-mesenteric border of the gut while duplication anomalies of the small bowel are mesenteric in position. The most popular theory perhaps is that groups of epithelial cells along the alimentary tract that normally disappear may be pinched-off and develop into a duplication.

*Pathology.* Duplication of the alimentary tract may occur anywhere from the base of the tongue to the rectum, and most commonly along the ileum. The duplicate is usually intimately associated with normal adjacent bowel, lying on its mesenteric side, between the leaves of the mesentery. The blood supply to the anomaly and the adjacent bowel is the same. Rarely, the malformation may be entirely separate and in that case is commonly referred to as an enteric or enterogenous cyst. These anomalies may be spherical or tubular and may vary from two cm. to four feet. They may even be multiple. Also a duplication may communicate with the adjacent bowel at one or more points or not at all.

The structure of the duplication is essentially that of the gastro-intestinal tract though not necessarily the same as that of the adjacent bowel. The occurrence of ectopic gastric mucosa is often associated with ulcers and bleeding. However, bleeding may occur with apparently intact mucous membrane. Acute perforation has been reported.

*Clinical Findings.* These anomalies are rare and usually found in infancy and childhood, mostly in males. It is of interest to note that 85 per cent of reported cases of Meckel's diverticulum are in males.

There are no characteristic symptoms caused by these anomalies and they are rarely correctly diagnosed before operation. They may be incidental findings at autopsy. However, there are frequently serious symptoms such as severe intestinal hemorrhage or intermittent abdominal pain. There may be a palpable abdominal mass. They may lead to intestinal obstruction by encroaching on the adjacent bowel, by taking part in a volvulus or by forming the leading point of an intussusception.

Roentgenologic findings are not characteristic but in some cases may be of aid in location and even in demonstrating the size as in duplication of the stomach or colon.

In the differential diagnosis appendicitis, Meckel's diverticulum, intestinal polypus, mesenteric cyst, dermoid, hydatid and pancreatic cysts are to be considered.

*Treatment.* Treatment is surgical and in cases of duplication of the esophagus, stomach and duodenum as well as colon may be very complicated, and only those of the distal portion of the small bowel will be discussed here. In these cases the malformation lies between the leaves of the mesentery and usually is intimately attached to the adjacent bowel with the same blood supply. Resection of the duplication alone is usually impossible so that the anomaly and adjacent bowel best be removed together.

## Case Report

P. I., August 13, 1944, a nine-year-old white female from a distance of 25 miles was admitted to the hospital with the complaint of continuous lower abdominal pain and vomiting which had started during the night about 12 hours previously. There

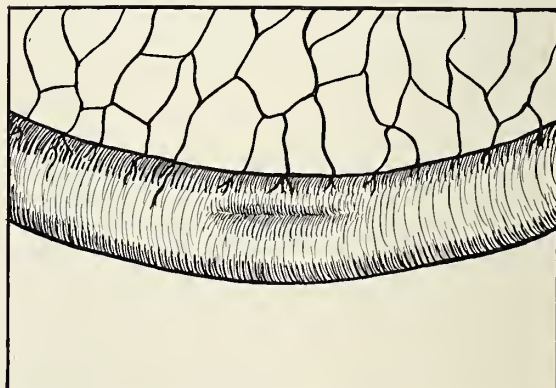


Figure 1. Diagram showing appearance before separation of the two lumina.

was no history of any blood in vomitus or from rectum.

*Past History.* Childhood diseases and one attack of pyelitis. Tonsillectomy, but had never been hospitalized. No history of any previous similar trouble.

*Family History.* Non contributory.

*Examination.* Examination was negative except for marked tenderness of the lower abdomen, especially right lower quadrant. There was no distention, no scars, or masses.

*Laboratory Findings.* Hb 84 per cent. Erythrocytes 4,100,000, WBC 13,900, 85 per cent polys, 10 per cent lymphocytes, 5 per cent monocytes.

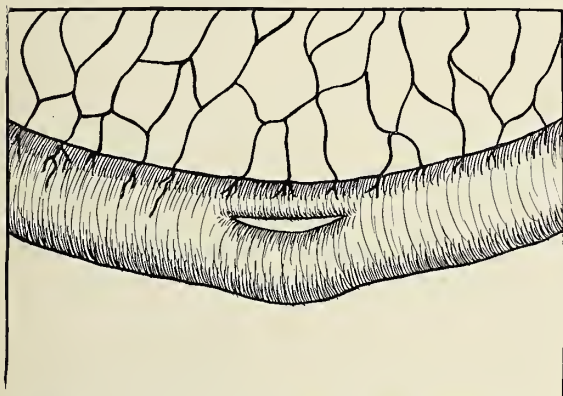


Figure 2. Diagram showing appearance after separation of the two lumina.

Urine was negative except for two to five pus cells per four m.m. lens field.

The diagnosis of acute appendicitis was made.

Under ether anesthesia a McBurney incision was made that was later enlarged distally after the appendix was found not to be grossly pathologic. A considerable amount of free straw colored fluid was found when the peritoneum was opened. At about the location where a Meckel's diverticulum might be found the small bowel was edematous and distended to two or three times normal size and was somewhat inflamed. Distally the small bowel was normal. At the site of pathology the bowel was divided into two segments, each being about 6 cm. in length and which were completely separated and patent as bowel contents could be forced through each segment. The antimesenteric segment of bowel was the more patent and larger and a finger could be slipped through its channel. The two segments

of bowel were well separated by dissection of the leaves of the mesentery. The mesenteric segment was divided between plain catgut ligatures and each end was inverted with a pursestring of dulox and the mesentery was closed with interrupted plain catgut sutures. There was no tissue removed as the segment was just long enough for closing the two ends. The appendix was removed and was reported microscopically as subacute. The postoperative diagnosis was intestinal obstruction due to an anomaly of the small bowel.

Patient had a normal convalescence and was discharged August 23 after a 10-day stay in the hos-

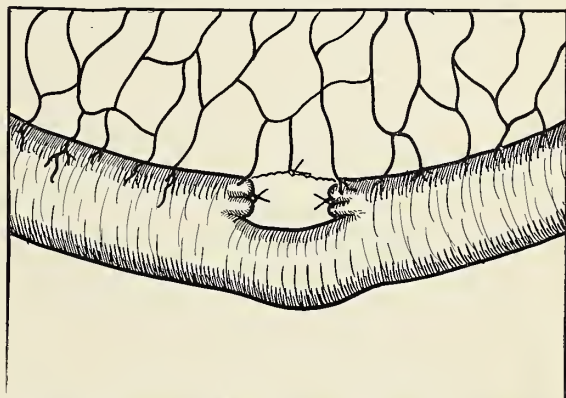


Figure 3. Diagram showing one lumen occluded by invagination of two ends.

pital. No obstructive symptoms developed at any time, and gastric decompression was not needed. The patient has been well ever since.

#### References

- Booher, R. J. & Pack, G. T. Cysts of the duodenum. *Arch Surg.*, 1946, 43: 588, Nov.
- d'abreu, A. L. Enterogenous cyst of the ileum in an infant. *Lancet*, 1934, 2: 194, July.
- Donovan, E. J. & Santulli, T. V. Duplications of the alimentary tract. *Ann. Surg.*, 1947, 126: 289-304, Sept.
- Gardner, C. E. & Hart, D. Enterogenous cysts of the duodenum. *J.A.M.A.*, 1935, civ., 1809-1812, May 18.
- Grove, E. W. & Porch, L. D. Duplication of the terminal ileum. *South. M. J.*, 1943, 36: 735, Nov.
- Ladd, W. E. & Gross, R. E. Surgical treatment of duplications of the alimentary tract. *Surgery, Gynec. & Obst.*, 1940, 70: 295, Feb. 15.
- Ladd, W. E. Duplications of the alimentary tract. *South. M. J.*, 1937, 30: 363, April.
- Lorber, S. H. & Machella, T. E. Enteric cyst of the duodenum. *Gastroenterol.*, 1948, 10: 892, May.
- Orgias, R. Enterogenous cyst of the duodenum. *Brit. J. Surg.*, 1943, 31: 90, July.
- Rea, C. E. Enterogenous cyst. *Ann. Surg.*, 1940, 112: 300-304, Aug.
- Sawyer, C. F. Enterogenous cysts. *Surg., Gynec. & Obst.*, 1940, 70: 78, Jan.



## The Management of Pregnancy in the Diabetic Patient\*

Thomas J. Sims, M.D.

Kansas City, Kansas

During the past two decades the control of diabetes in pregnancy has improved. In the past 10 years improvement has been greatest in the direction of lowering infant mortality. With the exception of those individuals receiving poor or inadequate prenatal care, the maternal and infant salvage is reaching an acceptable figure.

It is unnecessary for me to discuss with this audience the medical treatment of diabetes, insofar as the mother is concerned. I would like to restate what many observers have found regarding insulin administration. The insulin requirement will frequently vary from month to month, and many patients will require a variation from the single morning dose of either protamine or mixed protamine and regular insulin to the smaller fractional doses through the day. In my own experience these requirements are figured by an expert internist who follows the case together with the obstetrician.

We have felt that all of these patients are safer from the maternal standpoint when allowed to show some sugar in their urine. This tends to avoid the intermittent hypo- and hyper-glycemia exhibited by patients when an attempt is made to render them sugar free.

In our series our greatest concern has been infant salvage.

Dr. White states that her experience has passed through four stages:

1. Excessive maternal and fetal mortality.
2. Unpredictable excessive fetal mortality.
3. Excessive fetal mortality predictable by a hormonal imbalance.
4. Lowering of fetal mortality when the hormonal imbalance is corrected.

She states a rise above the normal level of serum gonadotrophin after the fifth month has accurately predicted the characteristic late accidents of pregnancy, premature delivery, toxemia, stillbirth and neonatal mortality.

Substitution estrin and progestin therapy has controlled the rise in chorionic gonadotrophin and brought about by the rise of estrin and progestin. As a result the rate of fetal mortality has fallen from 32 per cent to six per cent. She is now using stilbesterol and pranone; we are using stilbesterol alone.

Dr. O. Watkins Smith reported in February of

1948 on the use of diethylstilbesterol in pregnancy. Smith and Smith in 1936 in studies of estrogens, pregnadiol and serum chorionic gonadotrophin reflected a failing utilization of this factor for the production of the placental steroids. Heckel and Allen in 1939 demonstrated that progesterone secretion would be maintained and delivery postponed in the pregnant rabbit by estrogen administration. In 1941 Smith and Smith concluded that estrin oxidation products rather than estrogen were responsible for the progesterone stimulating effect, through pituitary stimulation in non-pregnant women and through increased utilization of chorionic gonadotrophin in pregnancy. It was found that diethylstilbesterol, unlike the naturally occurring estrogens, was not depressed in its pituitary stimulating effects by the presence of progesterone and might provide the ideal agent for preventing progesterone deficiency in pregnancy. This was observed to be true in those patients who showed a rise in urinary pregnadiol and a drop in serum chorionic gonadotrophin on stilbesterol therapy and a reversal when the drug was experimentally discontinued.

Stilbesterol causes an increased secretion of progesterone though the placenta by increased utilization of chorionic gonadotrophin. Stilbesterol is not given as an estrogen, but because it stimulates the secretion of placental steroids.

Further, it has been shown by Smith and Smith that a deficiency in the steroid hormones preceded toxemia, eclampsia, premature delivery and intra-uterine death. There is additional evidence that the steroid level must be maintained to preserve adequate placental vascularity. It is emphasized that prophylactic use is necessary in stilbesterol therapy before evidence of deficiencies occur. In our small series we have carried through with the stilbesterol therapy on a prophylactic basis. Pranone or progesterone has been used only in event of cramps or threatened premature labor.

It has been stated by White and also by Reis that there is pituitary and associated imbalance in diabetic mothers, which was reflected in the baby. The overfat, pudgy newborn of a diabetic changes in appearance within a few weeks after delivery. We have noticed that all of these babies exhibiting the overfat cheeks and neck have small hands and feet. The problem is one of generalized endocrine peculiarity in the baby overshadowed by the tendency to early hypoglycemia.

\*Presented at a meeting of the Kansas City Obstetrical and Gynecological Society, September 29, 1949.

Within the first hour following delivery we do micro-sugars and repeat them every few hours during the first 24 hours and daily thereafter for several days. An attempt is made to deliver babies as close to the eighth month as possible, in view of the increased incidence of intra-uterine death after the eighth month. This means oxygen and incubator care for the newborn. In our series all patients except those going into spontaneous labor at the eighth month were subjected to a section on the basis that these infants do not stand labor well, short or long; and the undesirability of major surgery is overbalanced by the improved chance for the baby. Any type of labor induction in the pregnant diabetic at this period of pregnancy (eight months), is fraught with some danger to the mother herself.

A distinct advantage estimating with some degree of accuracy a proper time to terminate the pregnancy, is cephalofetometry. It has been of considerable advantage with those cases of irregular menstrual cycles often seen in these diabetic cases, as well as those showing some degree of hydramnios, or those in whom the baby seems smaller than the estimated length of gestation. In two instances operation was deferred for two additional weeks in order to allow the baby to attain satisfactory development.

#### Diabetes Untreated Late in Pregnancy

Gravida 1, age 34, 7 months gestation. Twin pregnancy.

Complaint: Polyrua, dizziness, thirst, weakness

Physical: Twin pregnancy. Edema of extremities, two plus acidosis (acetone breath).

Laboratory Findings: Acetone plus diacetic plus sugar. Two plus albumin in urine.

Course: Stabilized for two days then went into coma. Sugar rose to 588 mg. and carbon dioxide combining power dropped to below 12.6 volume per cent in spite of intra-venous glucose, insulin and oxygen. Patient expired on third hospital day, undelivered.

#### Diabetes Further Complicated by Other Factors

##### A. Chronic Nephritis

Gravida IX, Para VIII, age 30, known diabetic three years.

Blood pressure 170/90. Urine: Albumin two plus, sugar 1.4 per cent, blood sugar 175 mgm.

Insulin requirement: 10 units protamine zinc daily.

Past History: Three children (twins) living and well, two died in two days, four stillborns.

Present pregnancy: Seven months. Baby died in uterus at 34 weeks. Delivered macerated fetus, fibrotic placenta.

##### B. Erythroblastosis Fetalis

Gravida IV, Para 1; age 32. Had one eight-year-

old child before diabetes developed. Two miscarriages at one and three months. Treated by internist giving 25 units protamine and 40 units regular daily. Fetal movement ceased six weeks before hospital admission in labor. Delivered macerated fetus (seven months). Found to be Rh negative with blocking antibodies 1-264.

#### Giant Baby, Difficult Labor at Term

Gravida I, age 21, known diabetic for two years. Weight gain 33 pounds. Present O.L.A. Insulin 80 units (globulin) daily.

Diet: Carbohydrates 150, proteins 75, fats 75.

Reduced after delivery to 50 units.

Urine: Sugar 0, hemoglobin 72 per cent, albumin 0, rbc 3,940,000, acetone plus, blood sugar 119 mg., diacetic 0.

Labor: Eighteen-hour labor terminated by low forceps and episiotomy. Weight of baby, 10 pounds eight ounces.

Blood sugar on baby: Birth, 120 mg.; 24 hours, 58 mg.; 48 hours, 90 mg.

Mother and baby dismissed in good condition. We have had two others with giant babies lost, due to difficult delivery.

#### Premature Delivery—Giant Size with Poor Development and Poor Behavior of Newborn

Gravida III, para I, age 29. One living child, term forceps, 10 pounds. Known diabetic for one year.

Blood pressure 120/80. Insulin requirement, 52 units protamine zinc, 10 regular daily.

Diet: Carbohydrates 160, proteins 70, fats 70.

Blood sugar: Mother, 160 average; baby, 115-107-164.

X-ray term pregnancy (actually eight months with large baby). Went into labor at eight months gestation, 3½ hour duration. Baby weighed eight pounds, male, length 19½ inches. Has respiratory difficulty from birth.

Appearance: Overfat, edematous, weak cry.

In spite of care in incubator with oxygen, developed temperature on sixth day and died of terminal bronchio-pneumonia. Never did have normal chest expansion. Heart rate varied, rapid from birth to death.

#### Summary

1. Cases illustrating poor treatment, insulin treatment only and insulin and hormone treatment are presented.

2. Improvement in results is noted with each additional worthy adjunct to treatment.

3. Caesarian section still appears the safest means of delivery as far as the baby is concerned.

4. Cephalofetometry is recommended as a means of selecting the proper time for delivery.



## Caesarean Group

DURATION OF DIABETES	AGE	PARITY	WEIGHT	BLOOD SUGAR MATERNAL	INSULIN	WEIGHT GAIN	EDEMA	ALBUMEN	BLOOD PRESSURE	DURATION OF PREGNANCY WEEKS	PRENATAL TREATMENT	X-RAY	TYPE OF DELIVERY	OUTCOME FETAL	WEIGHT OF BABY	BLOOD SUGAR BABY	COMMENT
7 yrs.	20	G II P O	155	250	PZ 74 Reg. 25	25#	** H's & Ft.	Tr. ac- tone	135/90	34	Insulin control of diabetes only	No	L.C. CAES.	Died Atel- ectes 5 days	6-5 L. 18"	67 50 50	Hemoglobin 78% Mod. Toxemia Severe Diabetes POT 100 three times
1 yr.	23	G I	160	341 156 227	PZ 20 Reg. 40	25#	0	0	110/70	35	"	R.	Labor 6 hr. L.C.C.	Liv. male	6-3 L. 18 1/2"	87	Hemoglobin 94% Uneventful POT 100 two times
12 yrs.	21	G I	139 1/2	196 152 132	PZ 100 C 20	22#	0	0	125/85	37	Insulin Prog. & Pranone	R. 2x	Elect L.C.C.	Liv. Fe.	6-10 L. 19"	121 141- 83 89-48 83-94	Hemoglobin 77% Uneventful POT 101- 100 two times
6 yrs.	30	G III P II	147 1/4	80 174	PZ 13 Reg. 36	26#	0	3* Casts	162/20 190/160 160/100 140/90	34	Insulin Stilbes- terol	No	2 Prev. CAES. L.C.C. STER.	Liv. male	6-8 L. 19 1/2"	56 45 49	Hemoglobin 84% Nut. placental infection POT 99.6 one time
1 1/2 yrs.	26	G I	139 1/4	105 130 60	PZ 24 Reg. 48	21#	0	0	122/84	36	Insulin Stilbes- terol	Ceph fet. 2x	L.C.C.	Liv. Fe.	7-10 L. 22" Small	85 63 57 115	Hemoglobin 77% Normal POT 99
6 yrs.	21	G I P I	158 1/2	88 156 262 172	PZ 18 Reg. 32	31#	*** Hvd.	Ft. Tr.	148/100	40 X-ray sh'd 36	Insulin Stilbes. Pranone for Prem. Labor	"	L.C.C.	Liv. Fe. Giant Premature	8-2 L. 20" Small Print	88-62 75 114 158	Hemoglobin 77% 1st preg. died at vag. del POT 100.4
1 1/4 yrs.	23	G II P I	140 1/4	156 147 77F 136 270	PZ 35 " 17 Reg. 34	20#	*	0	110/80	40	Insulin Stilbes. Pranone	" 8 mo.	L.C.C.	Liv. male	6-2 L. 18"	72 87	Hemoglobin 84% POT 99
8 yrs.	16	G I	143 3/4	175 150 110 93 134	FZ 70 Reg. 26	30#	**	0	112/70	36	Insulin Stilbes.	Ceph 8 mo.	L.C.C.	Liv. Fe. Edeme- tous	6-7 L. 19"	60 97 60	Hemoglobin 77% Hydranmios uncoop. patient

The first case represents one of toxemia developing in a patient at the eighth month with severe diabetes. It was deemed advisable to terminate this pregnancy for these two reasons. No hormones had been given during pregnancy and no cephalofotometry was done. The baby behaved as if too immature; it was probably lost due to a combination of prematurity, endocrine imbalance and toxemia passed from mother to babe.

The next two cases were fortunate in not developing toxemia. They were probably not deficient in placental steroids. These results were happy endings. Both were radiographed but did not have cephalofotometry. In the second case operation was delayed after the first x-ray. Periods had been irregular and estimation of due date unreliable from menstrual history.

The remainder of the patients received hormone therapy. The fourth case was one of repeated toxemia, but in spite of a severe bronchitis, rising blood pressure and severe diabetes, the baby survived. The baby had a few spells of twitching during the first 48 hours but none thereafter. The placenta was unhealthy, multiple red and white infarcts.

Cephalofotometry was done on the last four cases and was of considerable value in Cases 6 and 7. Case 6 had severe hydranmios and a 4 1/2 lb. eight-month baby (oversize with a small skeleton); (first baby was lost at delivery, weighed 11 pounds). Toxemia was not prevented by stilbestrol here but patient had carried a hypertension throughout.

It was quite small even at theoretic 40 weeks, and earlier delivery would have probably ended fatally for the baby.

All patients subjected to operation were transfused during closure. This measure replaces blood loss and helps prevent maternal complications. All patients have been tested for Rh early in pregnancy and in case of Rh negative, with positive husbands, are rechecked for blocking antibodies earlier than five months and again at seven months. Immunized patients are given meconine. All of the patients operated are now checked for adequate baby size by cephalofotometry. In this small series two operations planned at the theoretic eighth month were postponed for two additional weeks. The baby weights are misleading as the footprints of the usual eight months fetus; evidently it would have weighed over 10 pounds at term.

All patients are now given stilbestrol. This is some protection against intrauterine death, but it evidently is not the entire answer as gigantism and edematous newborns still apparently appear. This is also the opinion of Dr. White.

In clinical practice it is not practical to do chorionic gonadotropin estimations and hence we rely on dosages of hormones found to be of value prophylactically. It is also true that once values are disturbed the hormones should be continued.

## Discussion

Dr. Peter Hiebert, Kansas City, Kansas. The subject of determining fetal age in utero has always been a difficult one and much study has been given it. Various methods have been tried and many of them have been inaccurate. The difficulty has been in getting the picture in two different planes and keeping the fetus in a constant position. Second, of course, has always been the problem of setting up proper scales by which results can be interpreted. At present it is our feeling that head volume is probably the most satisfactory and probably the easiest one to be obtained by x-ray examination. It is not an index of the weight of the baby. It is hoped, however, that it is a fairly accurate index of the age of the baby. We have noticed that the accuracy definitely increases in the latter part of pregnancy. We have also noticed that we are not as accurate in determining the fetal age or the volume of the fetal head if the head is not engaged as if the head is fixed in the pelvic brim. We are not as accurate in the breech presentation because of the fact that the fetus moves as the patient is moved from one side to the other, even though the patient is kept in an upright position and the films are taken one after the other as quickly as possible. I think that we are on the road of increasing the accuracy in diagnosing fetal age. As our tables get more accurate, we will be able to give the obstetrician a better estimation of the fetal age in-utero.

Dr. J. Milton Singleton, Kansas City, Missouri. Someone has mentioned the fact that 30 years ago we didn't see much diabetes in pregnancy, and that is true because most of those diabetic people were sterile. With the advent of insulin, our patients have assumed increasingly a more nearly normal endocrinologic balance and we have now pregnancy in the diabetic women with which to contend. My experience with the diabetics in pregnancy has fortunately been extremely limited. Most of it has been, I will have to admit, unfortunate. We listen to the work of Priscilla White and it is well presented and very conclusive. Then we hear Ralph Reis contend that he can show just as good results with his diabetics, and we know in his race that he has a very high percentage of pregnancy diabetics. With them he claims as good results with his mothers and babies on regular diabetic management. I am a little inclined to lean toward the use of stilbesterol and progesterone with Priscilla White, but one cannot gainsay the experience and mature judgment of Reis. I think that we have seen some babies do better under that type of management than under diabetic management alone. I believe that we all ought to be appreciative of the fact that we have heard a presentation of this problem

with complete intellectual integrity on the part of Tom Sims and Dr. Hiebert.

Dr. L. A. Calkins, Kansas City, Kansas. Dr. Hiebert's discussion is much the sanest statement I have ever heard from a roentgenologist. He admits that he doesn't know the whole answer, which is fortuitous. He feels that he is gaining in accuracy, which I am sure he is from the way that he stated the problem. Secondly, additional discussion of this problem was inclusive and to the point. No one feature in the care of the diabetic pregnancy patient is paramount, and only in that particular would I disagree with Dr. Sims who apparently would give all of the credit, or at least most of it, to Caesarian section. Admittedly, a great many of these diabetic women need to be delivered before the full 40 weeks are up, else they will end up with a dead baby in utero far too often. However, it might be in some few of them that an easier delivery could be effected by way of the vagina provided the cervix happens to be ripe. I will agree with Dr. Sims wholeheartedly that most of these women do not have a ripe cervix at the end of 34 to 36 weeks and, in that event, Caesarian section is the procedure of choice.

Dr. Joseph G. Webster, Kansas City, Missouri. The treatment of all sick persons depends upon their co-operation, particularly diabetics. This is even more the case in the treatment of a pregnant diabetic. The juvenile diabetic, recognized about 10 years or 13 years, perhaps is stabilized by the pediatrician or the internist and learns to run her own show. When she is 18 or 19, she becomes pregnant and the entire picture is changed. She is still trying to treat herself as she did before she became married and pregnant. She ceases to co-operate with the doctor and that is where we get into our trouble with a diabetic.

Dr. Thomas J. Sims (Closing). The question was asked as to how to diagnose diabetes in pregnancy. Perhaps most diabetics have been identified prior to pregnancy, but many develop diabetes during pregnancy, as described. Whenever lactosuria is present, rather than the other sugars, we rule it out in the laboratory. If glucose is the sugar, then, as has been said, perform a glucose tolerance test and identify the patient as a diabetic. Occasionally if one is running a routine morning sample of urine, he will miss one in those cases. Dr. Cox asked where the obstetrician comes in if the internist is to do it all. I am sure, in many other complicated cases of the skin and kidneys, that we rely on the internist to help guide our obstetrical footsteps. We don't rely entirely on the x-ray man either, and the obstetrician has to finally get the baby out one way or another. Certainly, the internist is not going to de-



liver the baby and Dr. Hiebert, the x-ray man, wouldn't put on a pair of gloves for that I am sure. Others have answered the toxemia question; we of course limit the salt and increase the protein, giving protein intravenously in cases of severe edema.

The prematures showing gigantism do not have large skeletons in proportion to a normal premature infant. There is a definite fine line to be drawn somewhere. We feel that cephalofetometry is just an added instrument in our treatment of some definite virtue. Dr. Holter brought up the anesthesia problem. Many patients refuse spinal; we have encouraged spinal where the patient would permit it, in order that they might soon get back on their fluid intake, and their insulin requirement would be more readily adjusted. We have used quite a bit of cyclopropane.

In regard to Dr. Calkins' statement, I knew it was coming. Dr. Holter and I are inclined to do Caesarians wherever we think that the baby might be lost. We don't like four-day labors; we don't like maimed babies. We don't like to lose children. These women are all severe diabetics. There are two schools of thought. One, the Boston school, practically always recommends Caesarian and the other school, as in Chicago, prefers delivery through the birth canal. Then there is a great bulk of the obstetrical thought, and perhaps the wisest, choosing the middle ground.

I have emphasized the fact that we like to deliver a baby as near the eighth month as possible. In spite of all the work that has been done to date on hormone therapy and the like, gigantism still occurs and the placental changes still occur, and there is too great a loss of infants in the last month of gestation.

One outstanding case to me was a case I had in the army in whom we planned to do a Caesarian at

8½ months. A small girl, a small pelvis and a large baby. We hospitalized her; the baby died the night before operation. Due to the large size of the baby, we did a Caesarian anyway. Perhaps we should have done a morselation. However, that patient during my tenure in the army came back again and at eight months we did a Caesarian and got a live baby without hormones and the like. Those patients who have a soft cervix and are likely to deliver when the baby seems not too large, particularly if they be multipara in labor, should be delivered through the birth canal.

I have purposely avoided any discussion of sterilization in these patients. We have felt, with the present trend in knowledge, that these patients may have more than one child regardless of the severity of the diabetes and they do successfully. We have delivered one juvenile diabetic, diabetes of 15 years duration, twice, and no sterilization yet. One of the patients we had was sterilized at the University of Kansas and then later we delivered her again and sterilized her. She had a triple ligation of the tubes and we could see the marks of the suture lines, exemplifying to you men that ligation of the tubes is not sterilization necessarily, but resection is sterilization. With the present progress in the endocrine follow-up, Dr. White has stated that with proper estimation of steroid hormones, gonadotrophin determinations in the urine and the like at her hospital, she might carry these patients to term without death to the fetus and I believe that is possible. But to you men, including you men of the University of Kansas, I wonder if you are doing those laboratory determinations. We are not set up for it and so we will continue in the light of our present knowledge to try to save these babies for these severe diabetics by doing Caesarian sections where we feel it is indicated with an occasional delivery thrown in, in multipara.

---

## Hermaphrodisism, A Case Report

Corbin E. Robison, M.D.

Edward H. Atkin, M.D.

Hoisington, Kansas

Miss S. came to our office on August 4, 1947, with the chief complaint that she had never menstruated, although she was 18 years old. She had had no serious illnesses or operations and had always been healthy otherwise.

During her early childhood her parents noticed that she had "lumps" in both groins, but that in the left groin went back inside when she was four or five years old. The mass in the right groin had been

constantly present and had enlarged considerably in the past three years.

*Sexual History:* The axillary and pubic hair began to appear at about the same time that the mass in the right groin began to enlarge and, though scanty, is typically feminine in distribution. Up to this time she had shown little interest in boy friends or dates. We gave her a number of injections of chorionic gonadotrophin, and some time later she

began to have dates and became engaged to marry. The mass in the right groin enlarged noticeably during the treatment.

*Physical Examination:* The patient was an 18-year-old white female, tall and slender (height, 68 inches; weight, 135 pounds). Her hands and feet were large; her breasts were of feminine type but small. General examination was negative except for the mass in the right inguinal region. Vaginal examination revealed the labia, clitoris, and external genitalia to be normal. The vaginal orifice was small but the vagina was of normal depth. There was no cervix projecting into the vagina, and no uterus or adnexae could be palpated.

She was anxious to get married. We felt that there was a possibility that the mass in the right inguinal region contained uterus, ovary, or both, and therefore advised exploratory operation.

*Operation:* A right inguinal incision was made. A hernia sac was found protruding through the external ring. This was dissected free and the aponeurosis opened upward from the external ring revealing a mass and "cord" in the inguinal canal. The mass was carefully opened and revealed two separate ovoid objects in a tunica vaginalis (Figure 1). The gross appearance was that of testicular tissue. In view of the definite femininity of the patient, we decided to ligate the cord and remove the entire mass.

At this point we were able to insert an index finger through the hernia sac and partially explore the pelvis. No uterus could be found and no adnexa felt on the right side. The left adnexal region could not be reached. The hernia sac was transfixed and ligated and closed as for any inguinal hernia.

*Pathological Report* (C. A. Helwig, M.D., Wichita, Kansas)—"Gross Appearance: Specimen meas-

ures seven by three cm. It is covered with glistening tunica. There is a pedicle six cm. long, one cm. wide. Cross section shows a round mass, gray colored, on the lower end, 12 mm. in diameter, and a hard whitish mass two cm. in diameter in the middle of the specimen.

*"Microscopic Findings:* The tumors have identical structures. They consist of tubules lined with one to two layers of columnar cells which have an oval basal nucleus. Very few tubules have a distinct lumen. The stroma is scanty and consists of cellular fibrous tissue. No epididymis is found. There is no spermatogenesis. In a few canals larger round cells with clear protoplasm and a dark round nucleus are noticed. In the upper testis very many oxyphilic Leydig cells are noticed between the tubules. In the lower testis very few interstitial cells are found. Section of the cord does not show a vas. There are very large thick walled blood vessels surrounded with fibrous tissue (Figure 2).

*"Pathological Diagnosis:* Two infantile testes in hernial sac" (Figures 1 and 2).

*Progress Note:* Six weeks after operation the breasts enlarged to an extent that required her to buy brassieres two inches larger. Her mother states that she is "doing fine" and that she is "more feminine."

*Comment:* The presence of two male gonads on one side, together with the history of a mass on the opposite side, along with the typical external female genitalia, leads us to believe that this may be a case of true hermaphroditism. The actual presence of uterus and its appendages has not been proved, however.



Figure 1

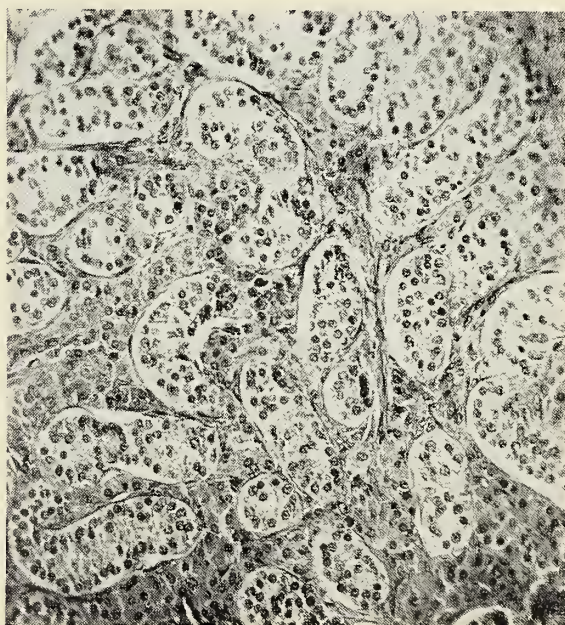


Figure 2



## PRESIDENT'S PAGE

Dear Doctor:

Someone said the price of freedom is eternal vigilance. We are only now beginning to learn that freedom is threatened from within as well as from without and that all can be lost unless we unite to defend it.

Such a danger comes from the present Federal Security Administration and its plan to trade freedom for security. With an annual budget of two billion dollars the administrator has 1,000 times more money to spend in sponsoring his program than has the A.M.A. to combat it. Or, stating this in other words, there are \$1,000 advocating security for each dollar spent by the A.M.A. in an effort to preserve liberty.

Nor is that the only government bureau that is attempting to convert the public to socialism. Many other agencies with equally large budgets are working as diligently with federal funds to change American philosophy. This certainly is one of the reasons that our federal government, in peace time and during an era of prosperity with high taxes, is still spending billions more each year than is taken in.

Someone recently declared that Kansas' share of this year's national deficit is \$165,000,000. That is not taking into account the huge national debt accumulated previously.

The physicians of the United States cannot compete against the government in terms of spending, but we can compete in other ways. Our position represents the democracy that made our country great. Our profession reaches the people individually face to face in conversation, and finally we have with us a great throng of other business and professional persons who also believe as we believe.

If we tell our story clearly and coherently to the people we meet, Mr. Ewing's pamphlets, his newspaper and radio releases will fail to change the public's mind. If we explain in clear language the advancements made by medicine and how the death rate has been reduced and the average life expectancy extended under a system of free enterprise, the public will be less intrigued by systems of medical care borrowed from decadent and broken European nations.

If we appoint ourselves each as a committee of one to defend the freedom our fathers left us, and if we work at this diligently enough, it cannot be taken away. We approach this battle as citizens of this great nation and combine our strength with that of thousands of other persons to save democracy within our country, to prevent a small handful of misguided men from trading the hard-earned liberty we have, our birthright, for a mess of pottage that is called security.

Sincerely,

Haddon Peck, M.D.

## EDITORIAL COMMENT

### Second Annual Kansas Medical Day

The second annual Kansas Medical Day will be held at the University of Kansas Medical Center on Monday, March 6. On this day the entire junior and senior classes will be present at the school and the Kansas Medical Society will conduct the entire program. There will be a banquet at the Hotel President in the evening to which will be invited all the students and their wives.

Through the cooperation of Franklin D. Murphy, M.D., dean of the School of Medicine, the Kansas Medical Society is afforded this day to explain to the medical students what the clinical practice of medicine consists of. The Society is planning the program around subjects pertaining to economics and locations. Present will be representative Kansas physicians from various sections of the state and invited are all members of the Kansas Medical Society.

The Society looks upon this occasion as an opportunity to foster one of the objectives of the Kansas Plan, that of encouraging young physicians to locate in this state. It is hoped that many members of the Society will attend this meeting and visit with the junior and senior medical students, that they will cooperate by being hosts for this occasion. This will be an opportunity to become acquainted with the future doctors of this state and will also serve to present the practicing physicians of Kansas to the students at our state university.

---

### New Drugs

Public interest in the use of new drugs, prompted by exaggerated stories in the popular press, frequently create problems for the physician. Once the drug is announced, people begin clamoring for its use and criticize the cautious physician if he withholds the drug. Popular demand for the introduction of new substances is easily understood, but the dangers involved in the use of unknown experimental therapeutics are minimized.

Regardless of how critical the medical profession might become, there remain two factors over which the individual doctor has no control. The popular press will describe scientific advancements whenever information of that type can be obtained, and the public will demand the new treatment immediately upon hearing about it. Controls, if any, must be set up in the clinical laboratory to safeguard the secret, and the press might be given to understand the potential hazards of new substances. Even then the problem remains unsolved.

The announcement of ACTH, for example, was

accompanied with considerable fanfare, and in a matter of hours doctors' offices all over the country were crowded with arthritics demanding its use. It was of no concern to the patient that ACTH had not proven entirely successful, that certain undesirable side effects had required its discontinuance, and that in more than one instance the progress of the disease continued in spite of increasing doses. The profession knew the drug was not ready for general use, in fact that it was almost impossible to obtain at all, but it fell to the unhappy lot of the individual physician to explain that to his patient.

In the face of his personal problem the patient would not be entirely satisfied even if told the story of the scarcity of ACTH; that 400,000 hog pituitaries are required to make one pound of ACTH; that one pound of pituitaries will yield about 1.5 grams or a third of a teaspoonful in powdered form. Even when full production is reached, a 60-pound annual supply is all that could possibly be obtained, which would care for only a minute fraction of the people who might be benefitted from its use.

A more adequate explanation would require a story of the work that precedes placing a drug on the market. Omitting production problems, which are present in almost all new drugs, there remain a myriad of clinical considerations. The subject might begin on safety with a description of how increasing dosages are tested on animals and that various types of animals are used. The first experimental uses on man generally consist of one-fifth or less the amount tolerated by animals. Even then frequent toxic symptoms may occur such as allergic reactions, skin reactions and blood dyscrasias. Frequently determination of the drug's toxicity in animals gives little information regarding its toxicity in man.

After the initial administration of the drug to man, pharmacologists' study begins. This requires much preliminary planning. A control group must be selected to as nearly approximate the other group as possible. Even in the best arranged plans a small error in the selection of these groups can produce mistakes in the final tabulation results. For instance, the group must be large enough to provide a reasonable set of statistics. The controls are of utmost importance because any variation in this procedure will seriously alter the results. In some places even the physician conducting the experiment does not know which is the group receiving the placebo instead of the drug.

Other considerations are equally important, such as the measurement of effects. The decision as to what shall be looked for is always made before the drug is used. If the results are objective it is much



easier than if the measurements are made on x-ray findings, skin reactions, etc. It is especially important in these instances that the experimenter should not be told the group receiving the drug, because even the most analytical scientist could be swayed by previous knowledge.

The use of statistical experts represents just one other phase of development of a new drug, but in the end it still comes back to the individual physician and his patient. It will still require a patient explanation on the part of the doctor, but if he could take the time to show what experimental medicine involves his effort would be a large step toward the improvement of public relations in behalf of the medical profession.

### Dr. Murphy Honored

The Journal notes with pride that Franklin D. Murphy, dean of the University of Kansas School of Medicine, was selected by the United States Junior Chamber of Commerce as one of the ten outstanding young Americans of the past year.

His genius and his tireless energy in the successful effort of supplying the rural areas of Kansas with adequate medical care form the basis on which he was selected. His contributions toward the Kansas plan gave him this outstanding and richly deserved honor.

The Kansas Medical Society wishes to add its heartiest congratulations to Dr. Murphy and looks forward toward continuing achievements in a co-operative effort with the medical school until the problems of medical economics and distribution can be solved for all persons in this state.

### Stand Up and Fight

*The Hon. James F. Byrnes, former Supreme Court Justice, Cabinet Member and Senator, spoke at the Conference of Governors on November 21, 1949. Believing it to be of interest to the medical profession, the Journal is reprinting portions of his address, "Over a Bridge of Socialism into a Police State."*

The people who settled this country did not come here to establish a government. They were seeking liberty, not security. They were seeking an opportunity to enjoy freedom, the freedom of being let alone.

But today is another day. The spirit of self-reliance that animated the early settlers and for more than a century inspired our people to exercise their initiative and develop this country, while preserving their independence, is unfortunately departing from the people. Instead of that, we are threatened with the concentration in Washington of the powers of

local governments, including police powers, and with the imposition of creeping, but ever advancing socialistic programs. To pay for these costly programs we are going to borrow more money. It is well to remember that if we but stumble there is no lend-lease or Marshall aid for us.

Many people are disturbed. But those who look with fear upon the trend of political thinking, may as well be realistic. They should realize that if a proposal for the spending of money is authorized by the Congress as promoting the general welfare, the probability is that under the decisions interpreting the general welfare clause of the Constitution, it will be sustained by the Court. Therefore, those who wish to preserve people's rights and prevent the gradual absorption of local governments by a big government in Washington, with resulting restrictions upon our liberties, should look to the people.

It will serve no useful purpose to argue to them about the repeal of federal aid laws which are in operation and to which operation the States have adjusted their budgets. But we can oppose their expansion until our budget permits it. And we can oppose the adoption of new and costly programs that other governments have tried and now wish to abandon. It will serve no useful purpose to spend one's time in criticizing the political parties or individuals responsible for the growth of the federal aid system. No party or individual is entitled to a monopoly of the blame or credit. We would not have an over-expanding government if the people were conscious of the taxes they are paying to the federal government. When the government required employers to withhold income taxes from employees, the government put the worker to sleep.

The excise taxes are so well hidden that their burden is not appreciated by the average taxpayer. Not realizing that they are paying the bill, they are easily misled into clamoring for more federal laws and more federal aids. They are misled into regarding the United States Treasury as a Christmas Tree, with the President and the members of Congress playing the role of Santa Claus.

If Congress adopts those new programs no man can tell exactly how much we will have to borrow, or from whom we will borrow it. We do know the next generation must pay it. All of us should think more of the next generation and less of the next election.

What a heritage we will bequeath to the children of this day! Our greed for welfare and security will deny to them the opportunities we enjoy. Instead of fighting freely for the future of their children, they will be forced to pay for the folly of their fathers.

To justify spending more than our income, some persons speak of what the government is doing for

the "little fellow." Let me show you what the federal government is doing to the little fellow. The United States government is making the small man smaller every day.

If the "little fellow" sends a message by telephone or telegraph he pays a tax. If he travels by railroad or bus he pays a tax. If he buys an automobile, the sale price includes a tax. When he buys gasoline or oil he pays a tax. If he buys cigarettes, he pays a tax. If he goes to a football game or baseball game, he pays a tax. If his wife buys a pocketbook or cosmetics, she pays a tax, and if his children go to a movie, they pay a tax.

The average working man must work 47 days a year to earn the money necessary to pay his taxes to the federal government. That is almost one day out of every week. If the new programs now seriously proposed should be adopted he will have to pay in taxes the equivalent of his wages for an additional 20 days, making 67 days he will work each year for the government instead of for himself and his family. That is what the federal government is doing to the little fellow.

If the spenders really want to help the little fellow, they should allow him to keep more of the money he gets for his labor to spend as he pleases, instead of having it taken from him and sent to Washington, to let bureaucrats spend as they think it should please him.

Men intoxicated with power will never voluntarily surrender the power to spend the money of other people. Human nature does not change. The government will not repeal a single war tax now being collected unless forced to do so by public sentiment.

The Governors of the various states can perform a great public service by demanding a reduction of wartime taxes. They can bring home to a man a realization of the taxes he is paying, so that when a housewife says she does not know what has become of her money, he can explain that much of it has been taken to Washington.

The Governors can cause the people to realize that when a dollar is taken from them in taxes, only a small part of that dollar trickles back to the state in federal aid. That is the "trickle back" system. It makes big government in Washington and makes beggars of the states.

I want to see our Governors, as well as our Senators and Congressmen, going to Washington with their hats on their heads, instead of going hat in hand, begging for a portion of the tax money their constituents have been forced to pay.

The Governors have the confidence of their people. They have great prestige and can exercise their leadership to recover for "the states, respectively, and

the people" the powers reserved to them by the Constitution. They can lay down and take it or stand up and fight. I hope they stand up and fight.

---

### Society News Letter

The Kansas Medical Society is inaugurating a new public service project, that of issuing a regular news letter to all newspapers and radio stations in the state. The material will be prepared under the supervision of the Editorial Board and will be issued twice a month through the Executive Office.

The news letter will contain items of state-wide interest concerning matters of health, public service projects of the medical society, items of lay interest from the Journal, reports of meetings and local news of general interest.

The Editorial Board invites contributions from component medical societies, hospitals and individual physicians, and will welcome all news items pertaining to health or medicine that might be of general interest to the people of Kansas. To be used these items must be current, and it would be much appreciated if announcements would be sent to the Executive Office as soon as events occur. With the help of the membership and the component societies, this continuing project can be made a worthwhile service to the radio and press and through them the people of Kansas.

---

### Dr. Hawley to A.C.S.

Dr. Paul R. Hawley, chief executive officer of the Blue Cross and Blue Shield commissions, has resigned that position to become director of the American College of Surgeons, effective March 1. Dr. Malcolm MacEachern will become director emeritus of the College and will continue to head the hospital standardization program. In his new position, Dr. Hawley will work to get physicians and surgeons in closer contact with private prepayment plans for medical and hospital care.

---

### Interns and Students Receive Journal

All 1949 graduates of the University of Kansas School of Medicine, interning at hospital throughout the nation, and all members of the junior and senior classes at the medical center are now receiving complimentary copies of the Journal of the Kansas Medical Society. Subscriptions for the group were begun with the issue for January, 1950.

The plan, approved by the Council and the Editorial Board, will give the new doctors of medicine, now interning, knowledge of activities of the profession in Kansas. Students at the medical center will find the Journal helpful in their work.



---

## BLUE SHIELD

---

### Physician Relations

District Blue Shield Relations Committees are being set up in each of the 12 councilor districts. As of January 15, meetings had been held in Districts 1, 6, 9 and 12.

It is the consensus of the state-wide Blue Shield Relations Committee that the base of understanding of Blue Shield must be broadened within the profession. More doctors must take an active part in Blue Shield discussions, if the best possible program is to be developed.

Purpose of the district meetings throughout the state is to organize a larger base of participation; to give the doctors in each area more voice in the shaping of Blue Shield objectives.

\* \* \*

### Non-Participating Physicians

A comparison of the list of Blue Shield participating physicians with the roster of the Kansas Medical Society revealed that some 287 physicians do not participate in Blue Shield. Over 1,400 doctors do participate.

The reasons for non-participation have never been thoroughly explored. Perhaps in a number of instances the sole reason has been inertia—as one doctor said, "I just never got around to signing the agreement." Others may be conscientious objectors—either to the whole idea or to certain phases of the program.

Primarily as a matter of information to non-participating physicians, but also in the hope of doing a little proselyting, the letter printed below was sent to each of the non-participating physicians on record. As a result, so far, over 30 physicians have signed agreements.

"There have been two recent changes in the Blue Shield program recommended by the Blue Shield Relations Committee and approved by the Blue Shield Board which will have an effect on the handling of cases with non-participating physicians. We feel that it is a courtesy due you to tell you of these changes and explain the reasons for them.

"1. Recently the State Insurance Department suggested that Blue Shield make its payments directly to the members in cases involving the services of non-participating physicians. The department stated that our legal obligation was to the members in such cases. While we have in the past tried to protect the doctor's interest, even though he did not participate, we now feel that we must comply with the suggestion of the State Insurance Department.

"2. In the New Blue Shield Agreement effective December 1, 1949, payments to non-participating

physicians are set at 90 per cent of the schedule of payments available for participating physicians. As you may know, participating physicians have contracted to accept a pro rata reduction in the schedule of payments if necessary. While there is no present indication that such a step will be necessary, the Blue Shield Board felt the percentage paid to non-participating physicians should be set at an amount below which Blue Shield would not be likely to reduce payments to participating physicians.

"Blue Shield has a big job ahead, and so has the medical profession if it is to demonstrate that a voluntary pre-payment plan can be successful in meeting a part of the health needs of our people. We realize that there are still many imperfections in the program. However, we are trying to learn from experience and improve Blue Shield as we go.

"We would welcome you as a fellow participating physician. But if you have sincere objections to the Blue Shield idea, we would also welcome an expression of your point of view."

---

### Mid-West Cancer Conference

The second annual Mid-West Cancer Conference, sponsored jointly by the Kansas Medical Society's Committee on Control of Cancer and the Kansas Division of the American Cancer Society, was held at the Broadview Hotel, Wichita, January 19-21. More than 200 physicians from Kansas, Missouri, Oklahoma, Arkansas and Texas were present.

A panel of well known authorities from all parts of the country presented the scientific program. One of the papers was read by Dr. Alton Ochsner, New Orleans, president of the American Cancer Society, who also was speaker at the banquet on January 20.

Because of the favorable response to the publication of papers presented at the 1949 conference, the Journal will again issue a cancer supplement in 1950 containing all of the papers given this year. A copy of the supplement will be mailed to all members of the Kansas Medical Society and subscribers to the Journal.

Plans are now being made for the third annual Mid-West Conference, tentatively scheduled for the middle of January in 1951.

---

### Invitation to Hawaii

The Hawaii Territorial Medical Association, composed of 500 members, has extended an invitation to physicians from the United States to visit the islands immediately after the American Medical Association convention in San Francisco in June. The Honolulu County Medical Society is now planning a half-day or evening clinical discussion or symposium on a current medical subject as its part of the program.

---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the eighth of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### Maternal Mortality Rates

A convenient index of the health of the nation may be found in its maternal mortality rates. It can be assumed that this figure is a reasonably accurate indication of the general quality of medical care in all its branches. The following report from the Bureau of Medical Economics Research of the A.M.A. gives maternal mortality figures for each state for the years 1933, 1947 and 1948.

For the nation as a whole the maternal mortality rate in 1948 was 1.2 per thousand live births, a drop of 0.1 from the year before. There was, however, a very large drop in the national figures and in all state figures between the year 1933 and the present.

The Kansas record was 5.5 in 1933, 1.0 in 1947 and 0.9 in 1948. We fall into the group of 27 states and the District of Columbia that have rates at least as low as one maternal death per thousand live births. The best record was for the state of Oregon, which reported 0.4. In second place three states are tied, Connecticut, Nebraska and Utah, each with a rate of 0.6.

The decline in maternal deaths in the southern states is dramatic and represents an accomplishment that is probably as great or greater than the record made by the states with the better over-all figures. Florida, for instance, had a record of 11.5 in 1933 and in 1948 reported 1.9. Alabama dropped from 7.5 to 2.3, etc.

Since 1933 the United States has made tremendous progress, with the rate declining from 6.2 to 1.2 in 15 years. Another factor of interest which certainly presents an argument favoring the private practice of medicine is that the maternal death rate has decreased in all parts of the nation. It is only natural that the decrease would be more dramatic in the states having the highest figures in 1933. This has resulted from a narrowing of the spread between the highest and the lowest state rates. For instance, the 1933 figures show the highest state to have a rate of 11.5. The lowest rate was 4.3. This represents a spread of 7.2. In 1948 the spread between the states had reduced to 2.3 with the highest 2.7 and the lowest 0.4. It is of especial interest to note that the highest rate in 1948, 2.7, was less than two-thirds of the rate, 4.3, for the best state in 1933.

Advancements in the future will be less dramatic than they have been in the past because a state that reaches a record of less than one death per thousand live births cannot reduce its rate much further. The primary difference in the next few years will be the reduction of the death rate in states that now are higher than the average figure. But even today the figure in the state having the poorest record is so good that the charge that rapid improvement in health has been limited to the wealthier sections of the country is clearly and emphatically refuted.

---

### New Associate Editors

Two associate editors of the Journal of the Kansas Medical Society were appointed by the Council at a meeting held January 15, Dr. Glen R. Shepherd of Kansas City and Dr. Donald P. Trees of Wichita. They will fill vacancies created by the resignations of Dr. James B. Weaver and Dr. C. A. Hellwig.

As assistant to the dean at the University of Kansas Medical Center, Dr. Shepherd will be an important liaison between the medical school and the Kansas Medical Society. For some time he has channeled material for the section headed "Case Reports from the University of Kansas School of Medicine" to the Journal, a duty he will continue. In addition, he is responsible for material for the special University of Kansas School of Medicine issue of the Journal, published each year in March.

Dr. Trees will send scientific material for the Journal from Wichita and that portion of the state, and will arrange to provide advance information on the program for the state meeting when Wichita is the host city for that event.

---

### Medical Courses Interest Veterans

More than 83,000 World War II veterans are studying medicine and related subjects, such as dentistry, nursing, pharmacy, osteopathy, veterinary medicine, physiotherapy, public health and bacteriology, etc., according to a survey of 2,535,385 veterans enrolled in schools and job training establishments under the G. I. Bill and Public Law 16 last December. The study was made by the Veterans Administration.

Students in the medical sciences represented three per cent of the total number of all trainees, and more than one-third of those studying under the G. I. Bill were taking courses in medicine and surgery. Under Public Law 16, an act providing training for those with service-connected disabilities, veterans studying medicine numbered 1,540.

---

Members of the Kansas Medical Society are urged to make hotel reservations now for the 91st annual meeting, Wichita, Kansas, May 15-18, 1950.



### Kansas State Heart Program

The Kansas Heart Association has been organized, as in other states, to reduce the morbidity and mortality caused by heart disease. The first goal that the association has set for itself is in the area of heart disease in children. This field was chosen because of the rapid strides that have been made in the past five years in the diagnosis and treatment of congenital heart disease and rheumatic heart disease, and also because of the considerable difficulties that attend the diagnosis of organic heart disease in children.

While the initial impetus of this program has come largely from the Heart Committee of the Kansas Medical Society and the Kansas Heart Association, these groups have been able to enlist the help of the Kansas State Board of Health and the University of Kansas Medical Center for a cooperative effort. It is hoped that the full development of the present plans will enlist the whole-hearted cooperation of all the physicians in the state, since the effectiveness of the program will, in the final analysis, depend on the participation of the doctors in the state.

The essence of the program is to help those who need it via the physicians in practice by bringing to the latter special diagnostic and consultative services in the domain of heart disease in children. The program calls for the setting-up of diagnostic centers at various locations throughout the state to which physicians can refer children for diagnostic and consultative aid without cost to the patient or doctor. Children will be seen at the clinics without regard to their economic status. Suggestions for therapy and management will comprise part of the report to the family physician and if he is present and if he so requests these matters will be summarized to the child's parent or guardian.

All findings made at the clinic and all the recommendations will be reported to the referring physician and a copy retained by the local Heart Association. The clinics will be under the immediate direction of Dr. Thomas N. Hall, Assistant Professor of Pediatrics at the University of Kansas Medical Center, who has had special training both in pediatrics and pediatric cardiology.

It is hoped that local physicians who are especially interested in this phase of medicine will lend their services to whatever clinic is located in their area. Dr. Hall will be available to the physicians and to the medical societies for discussion of problems related to heart disease in children. Dr. Hall's time and effort are being divided equally between the University of Kansas Medical Center and the supervision of the state program. At the Medical Center, Dr. Hall is in charge of the weekly confer-

ence on congenital heart disease and is in active charge of teaching and research programs having to do with this area in pediatrics.

It is expected that a research program, involving the use of cortisone in the treatment of children with acute rheumatic fever, will get under way at the Medical Center in the very near future. Dr. Hall will be in charge of this research program, which, it is hoped, will be extended to include children throughout Kansas who are afflicted with acute rheumatic fever. It is thus expected that the teaching, service and research program at the University of Kansas Medical Center in this particular field of activity will supplement the program throughout the state and will continue the tradition that has been established in so many other areas.

#### Plan for Diagnostic and Consultation Center

I. *Location*—The present plan is to establish a "pilot" diagnostic and consultation center which will be the pattern for the development of similar clinics throughout the state.

A. The clinic would be most suitably situated in a community wherein there existed a high degree of understanding and sympathy on the part of the local medical societies with regard to the purpose and objectives of the heart program. It would be highly desirable for the community to have a well-organized and interested local chapter of the Kansas Heart Association.

#### B. *Physical facilities*

1. The clinic should preferably include clinic space in a local hospital, with two or three examining rooms. These rooms would be utilized one-half day per week, on a demand basis, arranged well in advance.

2. The hospital would also furnish the necessary laboratory facilities and personnel for the performance of routine blood and urine examination.

3. X-ray equipment is required for fluoroscopy and obtaining heart films for purposes of record, and complete arrangements for this would be made by the local advisory council (to be arranged by local advisory council.)

4. Electrocardiographic facilities.

5. Records to include:

(1) Initial history and (2) Physical examination sheets; (3) Laboratory data sheet; (4) General information sheet; (5) Follow-up visit sheet; (6) X-ray sheet.

#### II. *Personnel*

##### A. *Physicians*

1. Dr. Thomas N. Hall  
2. Volunteer physicians  
3. Members of Advisory Heart Council appointed by and from local medical society concerned.

### B. Nurses Aids

1. Two or three non-professional individuals would be adequate to work under the supervision of the nurse.

### C. Clerical

1. One individual who would be responsible for typing up initial histories and physical examinations; also collation of data and maintaining unity of patients' total record.

2. One of the more advanced specially oriented nurse-aids or preferably a registered professional (i.e. R.N. in old nomenclature) nurse with special experience in handling cardiovascular problems could accomplish *parts* of the history on the work sheet.

### D. Administrative

1. A thoroughly oriented volunteer lay member of the local heart association will organize and act as roving "orient man" and if needed will have an assistant or two from the local heart association (all laymen). The person heading this might actually be the Nurse (II-B) or one of the Nurses Aids (II-B) or one of the people in category II-C.

## III Function

### 1. Prerequisites for a clinic.

- . Local Heart Association organized.
- . Local medical society approval with appointment of Heart Council—a group of three or more interested physicians, preferably pediatricians, cardiologists or internists or general practitioners.

B. Local Heart Council as professional advisors will assist local heart association in all arrangements and keeping of records and correspondence.

## New Doctors of Medicine

Fifty-nine licenses to practice medicine in Kansas were issued by the Kansas State Board of Medical Registration and Examination at its meeting in Topeka, December 8 and 9, 1949. Fifty-one were licensed by reciprocity and eight by examination.

Those receiving licenses by reciprocity are: Nolen L. Armstrong, Ellis; Floyd C. Atwell, Kansas City, Missouri; Albert Lewis Bonfanti, Ellis; F. A. Carmichael, Jr., Kansas City, Missouri; R. W. Coltharp, Topeka; Francis W. Cooke, Caruthersville, Missouri; Llewelyn S. Daigle, Kansas City, Missouri; William James East, Topeka; Louise Foster Eaton, Overland Park; Merrill Eaton, Jr., Overland Park; Henry C. Eichelmann, Norwich; Louis L. Fiorito, Lawrence; James H. French, Kansas City; Charles I. Girod, Anadarko, Oklahoma; Hermes C. Grillo, Medford, Massachusetts; Victor C. Hackney, Indianapolis, Indiana.

Hubert Loy Harris, Topeka; William J. Hemphill, Kansas City; John Clair Howard, Kansas City, Missouri; Edwin S. Kessler, Topeka; Wilson H. Lane,

Oklahoma City, Oklahoma; Paul C. Laybourne, Jr., Kansas City; Albert N. Lemoine, Jr., Kansas City, Missouri; Robert F. Livingston, Kansas City; W. A. McClanahan, Topeka; Ronald McCoy, Guymon, Oklahoma; John A. Mahre, Plainville; Michael A. Marchigiano, Topeka; Geoffrey M. Martin, Topeka; Oscar W. Miller, Kansas City, Missouri; Frank R. Moore, Topeka; John S. Moore, Hays; James T. Moy, Wichita.

Donald C. Muir, Anthony; Cyril P. O'Boyle, Emporia; Jack Stidham Oney, Oakley; John Bill Parmley, Wichita; John A. Putnam, Carthage, Missouri; Edward F. Rabe, Kansas City; James T. Robison, Jr., Kansas City; Samuel U. Rodgers, Kansas City, Missouri; John Henry Scott, Halstead; Robert R. Sewell, Garden City; Leon Nathan Shapiro, Topeka; William J. Smith, Stockton; Mont V. Stanley, Pryor, Oklahoma; John David Taylor, Norton; Edward James Twin, Leavenworth; John W. Unruh, Coffeyville; Vincent J. Vaughan, Lincoln, Nebraska; Garland O. Wellman, Wichita.

The following were licensed by examination: Hartvig Adrian Dahl, Topeka; Thomas Newton Hall, Kansas City, Missouri; Leon Edward Harris, Wichita; William Thomas Holland, Topeka; Kenneth Israel, Topeka; Elbert Daniel McNeil, Satanta; Alfred Victor Swanberg, Wichita; John Louis Weaver, Mission.

## Course in Endocrinology and Diabetes

A postgraduate assembly to study endocrinology and diabetes will be held at the Roney Plaza Hotel, Miami Beach, Florida, April 3-8, 1950. The program will consist of lectures, clinics, demonstrations, and question and answer sessions. A fee of \$75 will be charged for the course and the attendance will be limited to 100.

Applications may be sent to Henry H. Turner, M.D., Secretary-Treasurer, Association for the Study of Internal Secretions, 1200 North Walker Street, Oklahoma City 3, Oklahoma, before March 3.

## New Head of U.S.P.

Dr. Lloyd C. Miller, director of the biology division of the Sterling-Winthrop Research Institute, will become director of pharmacopoeial revision for the 1950-1960 decade next May, according to announcement from the U.S.P. Board of Trustees. He will succeed the retiring chairman, Dr. E. Fullerton Cook, who has been associated with U.S.P. since 1901 and has served as chairman since 1920. Dr. Miller has been a member of the Revision Committee since 1941 and became chairman of the Subcommittee on Biologic Assays in 1946.



## Case Report From the University of Kansas Medical Center

## Peri-Arteritis Nodosa and Histoplasmosis

## Clinical Pathological Conference

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of medicine, clinical pathology, pathology, x-ray, and the junior and senior classes of medical students.

## Case Presentation

A 32-year-old white male aeronautical engineer was admitted to the medical center with chills, fever, weight loss, pulmonary infiltration, draining left supraclavicular sinus and arthritis. Eighteen months previously he noted a painful nodule about the size of a plum over each tibia, but they disappeared three days after beginning penicillin treatment. Three months later, painful migratory swellings of knees and ankles appeared. Gold therapy was followed by some relief but these symptoms returned two months later and further therapy was of no avail.

Eight months ago, evening fever of 30° F. accompanied by malaise, weight loss, irregular chills and night sweats were first noticed. There were no other symptoms then. Daily fever continued until six months before this admission when a diagnosis of rheumatic fever and possible recurrent acute pyelonephritis was made at another clinic. Physical findings were presumably negative at that time. One month later, the patient developed dyspnea and cyanosis of the left arm without pain or coldness of that arm. A diagnosis of thrombophlebitis was made. Although the arm color became normal two weeks later in the hospital, daily fever of 103° F. persisted with accompanying chills and night sweats. Antibiotic therapy did not relieve these symptoms and no diagnosis was made before discharge from the hospital.

Fever had continued for three months when a non-tender firm, left cervical lymph node was noted. The patient entered a Minnesota clinic with diagnosis of Hodgkin's disease. Biopsy there showed caseous tuberculosis, and gastric washing cultures yielded a few colonies typical of tuberculosis. Guinea pig inoculations produced tuberculosis in one but no illness in the other three. A tuberculin skin test on the patient then was negative. Torula was reportedly isolated consistently from the sputum. Chest x-rays showed pulmonary infiltration which did not respond to streptomycin or paraminosalicylic acid. Blood and urine cultures were negative. Intermittent hematuria was noted. The white blood count varied from 14,000 to 25,000 with a predominance of polys. Fever of 100-103° F. persisted.

The history was otherwise non-contributory.

Physical examination on admission here showed

a well developed, emaciated, acutely and chronically ill white man with a respiratory rate of 28, pulse of 100, and blood pressure of 110/70, with disrupted left supraclavicular incision, rheumatoid deformity of all fingers, and slightly hyperactive deep reflexes.

Because the patient was in this hospital for 21 months and because the picture was not clear, innumerable laboratory tests were performed. Only the more pertinent findings can be included in this presentation. Urine examination showed sp. gr. 1.015, albumin faint trace, and 3-4 pus cells/hpf. RBC 4,100,000, Hb 64 per cent. WBC ranged from 15,000 to 89,000 terminally with polys predominating. Eosinophiles of 19, 10, 21, 13, and 15 were reported 17 to 19 months after admission. The serology was negative. Histoplasmin complement fixation tests were positive in decreasing degree. One sputum specimen showed atypical acid-fast organisms on culture and one positive culture for histoplasma capsulatum. Stool cultures were negative for organisms. Blood chemistries were non-contributory. A PSP test for kidney function showing 41.5 per cent excretion in one hour was noted two months before death. The urea clearance was 42 per cent of normal.

From the time of admission in February, 1948, until April, 1949, the patient's condition was gradually improving clinically. He gained weight. In August, 1949, a supraclavicular abscess developed and a bulge in the left flank was noted. A KUB film revealed bulging of the left psoas muscle, and aspiration obtained 300 cc. of thick, greenish-yellow pus. A drain was left in the retroperitoneal space and the surgical incision closed. Remittent spiking fever developed, together with acute illness manifested by chilling, cyanosis on sitting, and crackling rales in the interscapular area. There were numerous small petechiae over the left shoulder and a soft freely movable lymph node palpable in the left axilla.

The patient then developed anuria. Blood chemistry showed NPN 105. Two days later jaundice developed with icteric index 42 units. The abdomen became distended and rigid and vomiting began. A loud pericardial friction rub was heard. During the next 10 days, the jaundice lessened as did the friction rub, finally vanishing. Anuria continued. An exfoliative dermatitis developed which involved the whole body. NPN was 135 and creatinine 18. The patient became semi-comatose and died October 12, 1949.

### Clinical Discussion

Question: What kind of cultures did you get from the psoas abscess?

Dr. Stockard (Resident): Routine aerobic and anaerobic fungus and acid-fast cultures were all negative. The material was injected into a guinea pig and the guinea pig died. The tissues were not too satisfactory for culture. Bacteriological examination was reported as negative. Mouse inoculations were also done. The mice did not die and were found negative at post. Cultures of those animals were negative.

Dr. Delp: Dr. Cochran, there is one EKG tracing on this patient. May we have your interpretation.

Dr. Cochran: There is a slight sinus tachycardia present. The only other possible abnormality is the low voltage in the three standard leads. That is not necessarily an abnormality. In chest leads 3 and 5, the T waves are unusually tall and peaked. Our interest centered around them in relation to the possibility of potassium intoxication. We see T waves of this magnitude in otherwise normal individuals, but we don't know their significance. Such T waves sometimes suggest potassium intoxication. Otherwise, the EKG was not definitely abnormal.

Dr. McCarthy (X-ray Resident): We have any number of x-rays. The first one, dated August, 1947, is from elsewhere. It shows the infiltration you will see in subsequent films. The cardiac silhouette is normal. The infiltration you see is definitely abnormal. The apices show it although not in marked degree. In February, 1948, the infiltration previously described is seen. The left apex is pretty well involved. You now can see a spot carrying over on the right side.

March, 1948, shows a remarkable extension in a period of 10 days. The previously described lesion is now soft and surrounded by soft infiltration which involves the right lung almost from the apex clear to the base, and on the left side the infiltration is more marked and tends to extend laterally a little bit at the middle. The diagnosis of pulmonary tuberculosis, of course, was entertained and followed all along. Little change in the appearance of the lesion occurred between July and October. An indefinite and uncertain shadow in the right upper lobe was considered as a possible cavity.

In December, 1948, there is a little clearing of the process previously described. Again, we see the fibrotic strands and there is a lessening of infiltration which would be unusual for tuberculosis. The infiltration in the left apex is again seen as before.

This process continued until our most recent films. The last one is dated September 21, 1949, and shows an increase in the amount of infiltration. This film reveals the soft type of opacity from the

apex almost to the base on the right side tending to involve the left side almost as much. Dr. Tice wondered if it might be a fungus infection. The previous x-ray diagnosis was pulmonary tuberculosis.

The psoas abscess was obviously large and bulging. It is quite apparent in the films. The right psoas muscle was obscured, possibly by gas, but on the left side we find it bulging far out to the periphery. This is the abscess which was reported. Our other positive findings are minimal atrophic arthritis of the wrists and of the knee.

Dr. Delp: Mr. Joerns, will you discuss the differential diagnosis?

Mr. Joerns (Student): The diagnosis which must be thought of first is tuberculosis in view of the x-ray findings, the pulmonary lesions, the biopsy of the node showing caseous necrosis, the positive gastric washings, and one guinea pig found dead. There are a number of features about this case which prompt consideration of other diagnoses. I considered a number of the different mycotic infections.

For one, I thought of actinomycosis but in actinomycosis you would expect to see the typical sulfur granules in the pus, not mentioned here. The organism should be demonstrable because this has frequent metastases and subcutaneous abscesses. It might account for the abscess in the subclavicular region and the psoas abscess. This organism was not found. It should have been identified if it were present.

Coccidioidomycosis is another yeast form found

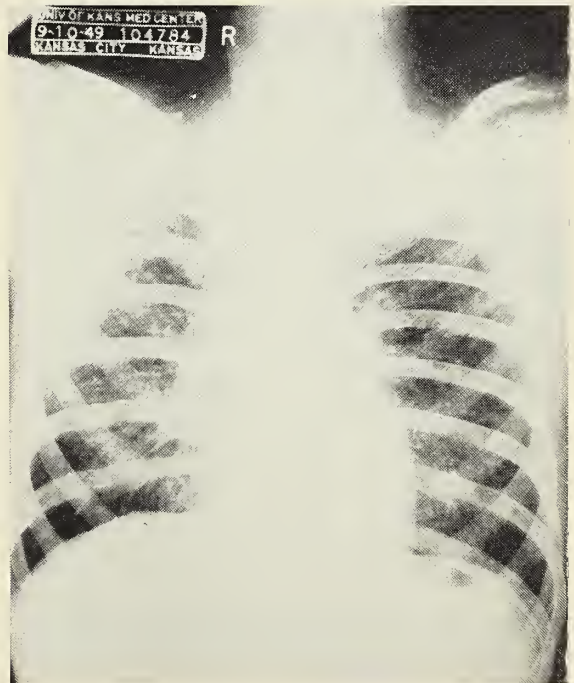


Figure 1. X-ray showing pulmonary infiltration.



primarily in the lungs and shows skin abscesses and subcutaneous abscesses. It could involve the joints to explain the arthritis which was mentioned. Coccidioidomycosis is one disease stimulating a high leukocyte count and might explain the high leukocyte count throughout this man's illness. This organism was not demonstrated.

Sporotrichosis produces gummatous lesions which are widespread, but this organism also should have been identified if present in the sputum studies. Then there is torula. It was supposedly identified consistently in the sputum but that was previously. That should have been identified here if it were present. We do have a positive report from another hospital. It produces lesions very similar to tuberculosis, can produce widespread lesions, and it could explain this subcutaneous abscess and the psoas abscess as well as explain the kidney damage. Then again, we have to consider histoplasmosis which causes lesions in the lungs, liver, spleen, lymph nodes, and bone marrow. However, one of the characteristics of histoplasmosis is absence of leukocytosis or eosinophilia. Yet there is a constantly high leukocyte count and eosinophilia here.

As for the cause of death, there are two things to pin it on. The oliguria and anuria indicate renal insufficiency. The diagnosis of chronic nephritis had been entertained, which could be due to metastatic tuberculosis or a mycotic infection, with finally sufficient damage to the kidney to cause anuria, renal insufficiency and death. Then again, there is the high serum potassium determination. While the normal is 16 to 22, the final reading of this patient's serum potassium the day before death was 31.5, which is definitely elevated. The EKG tracings also suggest possible potassium intoxication, so the cause of death could be due to potassium intoxication. Death could be due to the renal insufficiency alone.

Dr. Delp: Which one of those diseases you mentioned in the first part of your discussion do you regard as first and second choices?

Mr. Joerns: Well, I would choose the torula, because it has been identified before. It is uncommon, though. Histoplasmosis secondly.

Dr. Delp: Thank you. Dr. Wood?

Dr. Wood: We thought enough of the possibility of this being tuberculosis to confine the patient to the tuberculosis unit for a year and one-half. About six weeks after this admission he didn't show any high grade of toxemia and his clinical course was benign until we discovered he had a psoas abscess. I am not sure how long he had the psoas abscess. It may have been present for quite some time, but he had, except on one occasion, a normal temperature for three to four months prior to our awareness of the psoas abscess.

When his abscess was drained, things began to happen very rapidly. I hope that some of the surgeons are here to discuss this. I can't help but feel that the draining of the abscess may have precipitated some of this man's rather startling terminal symptoms. The thing that intrigued me was that from time to time you could isolate acid-fast organisms. A report from one of the clinics visited showed one guinea pig having definite tuberculous lesions at autopsy. This kept us trying to isolate acid-fast organisms. We were not able to do more than isolate an acid-fast organism which looked typical of tubercle bacilli on microscopic examination. Of course, it didn't produce a tuberculous lesion in our guinea pigs although one guinea pig became quite ill. Guinea pigs inoculated later with pus from the psoas abscess became ill.

I speculated on various possibilities including this being some atypical form of tuberculosis. Perhaps Dr. Wenner can tell us something about the mutations of the tubercle bacilli.

The possibility of some renal disturbance and the two fungi that have been isolated were also considered as causative agents. If you accept all the findings, we have three distinct etiological factors, all of which might account for the man's symptoms.

Dr. Delp: Do you care to comment about this terminal picture? For instance, the anuria the last few days of his life.

Dr. Wood: No further than I already have, Dr. Delp.

Dr. Wenner: From the routine laboratory requests that were submitted to the laboratory for bacteriological study, I am in as much a quandary as if they hadn't been performed.

In respect to the so-called atypical acid-fast bacteria, I understand that the last guinea pig that was inoculated from material obtained at post-mortem shows lymphadenitis, and the possibility that that pig will show frank evidence of tuberculosis is still open. Why the previous one did not, I cannot answer. This man had received streptomycin but in intermittent dosage. How much influence that would have on changing the organism in the guinea pig I do not know.

The possibility remains that this could be an acid-fast organism of other than human origin. It is a remote possibility but one that should be considered—either a bovine or avian strain. I think that if tubercle bacilli are active, they are playing a secondary role to some other preceding pathogen.

Dr. Wood: It is true that during the administration of streptomycin, you may have organisms on smear and get a negative culture or negative guinea pigs. After the streptomycin is discontinued, then positive cultures and positive pig inoculations occur

again. I think the streptomycin effect was practically gone when these cultures and inoculations were performed.

Dr. Furculow: This case should have been right down our alley. We're supposed to be experts at diagnosing and differentiating acid-fast tuberculosis from fungi. This man had not only one fungus infection but two, and tuberculosis besides. I'd like to analyze these three things separately. We have some ideas about them.

Perhaps the most important thing to be gained from this problem is that too often people have the idea that laboratory procedures are infallible. This idea is held also regarding x-rays and pathology, too. You tend to think that a laboratory report settles the diagnosis. For instance, when you analyze one of the early bacteriological reports regarding this patient, a lot of atypical acid-fast organisms are mentioned but only a few that looked typical. Looks don't mean much in this work. You must prove it.

These atypical organisms were injected into two guinea pigs. One guinea pig died reportedly with tuberculosis-like lesions, but they isolated only acid-fast saprophytes from this guinea pig. The other guinea pig lived without illness. Two other guinea pigs were inoculated with sputum. So one guinea pig out of four died, and tubercle bacilli could not be re-isolated from that guinea pig.

Tuberculosis must show (1) typical colonies, (2) they must be pathogenic for guinea pigs, and (3) the organism must be recovered after the death of the guinea pig. Unless you can satisfy those three requirements, you cannot call the case tuberculosis. As far as I'm concerned, if this man had tuberculosis, his x-rays don't look like it. He had diffuse disseminated lesions with no evidence of focalization. His tuberculin is positive which is not surprising in a person of his age. We did five or six gastric washings and three guinea pig inoculations, all of which were negative for tuberculosis. If he had had tuberculosis, we would have found it.

Then you come to torulosis which was isolated consistently, according to reports. That's fine. He may have had it. I don't know. Torulosis, as you know, is most commonly found with central nervous system localization in humans. It also occurs as a lung disease. We have no satisfactory antigen for testing, we have no satisfactory blood test for determining activity, so torulosis is in the realm of the unknown fungi as far as really proving the diagnosis.

If he really had torulosis, as a cause of his disease, we had pus and everything else from which we did not isolate torula. We had 12 sputa, two blood cultures, 10 gastrics, two cultures of draining sinuses, and a couple from his face pustules. We also did 17 mice for the various things, all of which were nega-

tive except for one sputum from which we isolated histoplasma. The culture method used for histoplasma is perfectly adequate for isolating torula and I think if torula had been there, we would have isolated it. So that remains another question, whether torula was mixed up in this infection.

I feel fairly satisfied with the histoplasmosis findings in this case except that it doesn't fully explain the picture. He had a positive isolation. We took his blood first and found a positive complement fixation test for histoplasma right after his admission. X-rays were consistent with histoplasmosis. His sputum culture was positive, although we got it only once, but that doesn't disturb me at all because histoplasma is a very difficult organism to isolate and we're not at all concerned with contaminants of histoplasma.

He did have histoplasmosis as far as we are concerned. His course was typical. The x-rays did not change much until terminally. Although I am not an x-ray expert, I think he had disseminated lesions at the time of the 1947 film, which more or less remained unchanged until the terminal extension before death. This is compatible with histoplasmosis. In that disease, x-ray changes occur early and remain more or less stationary up until death. The pulmonary lesions probably weren't concerned with his death. The blood tests showed nine positive bloods, with decreasing titers to three plus, two plus, and finally negative including the autopsy blood. This appears to indicate the disease was active.

So, as far as the picture of histoplasmosis went, it all fit together fairly well. He had histoplasmosis at the time of admission with a positive blood test and lung changes consistent with that diagnosis. He recovered from that disease all right, as evidenced by the decline in his blood tests. Of course, that leaves us completely in the dark as to why he died and the source of the psoas abscess. It is extremely unusual in histoplasmosis. We were unable to recover histoplasma from it. I would have to say that I do not think that histoplasma was concerned with his psoas abscess nor with the fatal termination.

It is interesting that he had erythema nodosum and arthritis at the start of his disease. As you know, that occurs with coccidioidomycosis and has never been described with histoplasmosis. It is possible that erythema nodosum is one of the early manifestations of histoplasmosis.

Lastly, in regard to the diagnosis of tuberculosis, I hope that I have impressed on you that it doesn't consist of somebody saying they see typical acid-fast organisms in the smear. I don't think smears are worth doing. The organism must grow in culture because it is well known that a lot of smears which are positive will not grow in culture. The organism



may look typical in culture but will not produce lesions in guinea pigs. It must produce such lesions to be called tuberculosis.

Dr. Andrew Mitchell (Urology): We treated this patient as we treat all oliguria and anuria, by minimal fluid replacement. I think the fact that the patient developed clinical signs of a psoas abscess indicates the disease process was progressing. The discussion that has preceded my remarks hasn't changed my opinion about the cause of his death. I think he had generalized tuberculosis and I think the reason he wasn't putting out urine was because his kidneys were infected and had become multiple tuberculous abscesses.

Before he had the psoas abscess drained, he had a normal NPN which means he had at least 30 to 35 per cent of normal kidney function. With rapidly progressing miliary tuberculosis, the kidney function was rapidly destroyed and he stopped putting out urine. I think he probably had miliary tuberculosis once before, semi-arrested by the streptomycin he had. I'm getting a little out of my field above the diaphragm but that is what I think he died of. This man died because he wasn't putting out any urine.

#### Pathologic Discussion

Dr. Wyatt (Pathology Resident): The gross pathological findings are as follows:

There is a generalized dermatitis on either side of the body. A healing surgical scar is noted in the right lower quadrant. The thoracic cavity contains approximately 1000 cc. of clear fluid on each side, and a few apical fibrotic adhesions bilaterally. There is a thin fibrous exudate over the pericardial surfaces. Numerous firm apical nodules varying from one to two centimeters in diameter and filled with caseous material are present in the lung apices. In the spleen, five nodules, the largest of which was 2½ cm., are irregularly distributed throughout the pulp. They are filled with a yellow-white gummy material.

The left kidney weighed 210 grams, the right weighed 150. These are not particularly enlarged. The left kidney presented multiple surface areas of thick green-white exudate. A small amount of gummatous material was also seen adjacent to all of these lesions. These were not found grossly in the right kidney. A large abscess is seen in the left psoas muscle measuring two cm. in diameter. On the right psoas margin, an abscess cavity four cm. in diameter is seen and it contains a green, thick, purulent material. There are numerous enlarged peribronchial and peri-aortic lymph nodes which contain yellow caseous centers. The gross anatomical diagnosis: diffuse granulomatosis involving lungs, spleen, kidney, lymph nodes and psoas muscles, fibrinous pleurisy bilateral, fibrinous periarteritis, bilateral hydrothorax, healing surgical scar lower abdomen.

Dr. Boley (Pathology): In considering the microscopic pathological findings, I'd like to take up first the terminal cause of death, which was found in the kidney. The picture shows acute pyelonephritis. It is a little different than we usually see. Microscopically, there is interstitial involvement. As you see, the tubules contain many polys. There is an infiltration in the edematous stroma, some areas more prominently than others. The predominant cell in the infiltration, however, is not polymorphonuclear leukocytes but the plasma cell, a mononuclear cell. There are polys present. Occasionally we run across an eosinophile in these areas. It is essentially an involvement of the stroma and the tubules, and we have areas of abscesses. This is acute and chronic pyelonephritis. It is chronic in that it has extended over a long enough period of time for plasma cells and lymphocytes to be present.

One might think of the pericarditis as being of uremic origin. The pericardium has fibrin on the surface. There are cells in the pericardium but they are not polys. They are predominantly lymphocytes and plasma cells. Some lesions in the myocardium are similar to those of rheumatic fever. There is a tendency for the cellular infiltration to be around the blood vessels in the septa. However, they are found sometimes out in the myocardium. These cells occasionally are associated with the Metchnikoff cells, the same as in rheumatic fever. There are plasma cells here, there are lymphocytes and a few polys, and occasionally eosinophiles. The only thing is the fibrinoid degeneration, the Aschoff cell

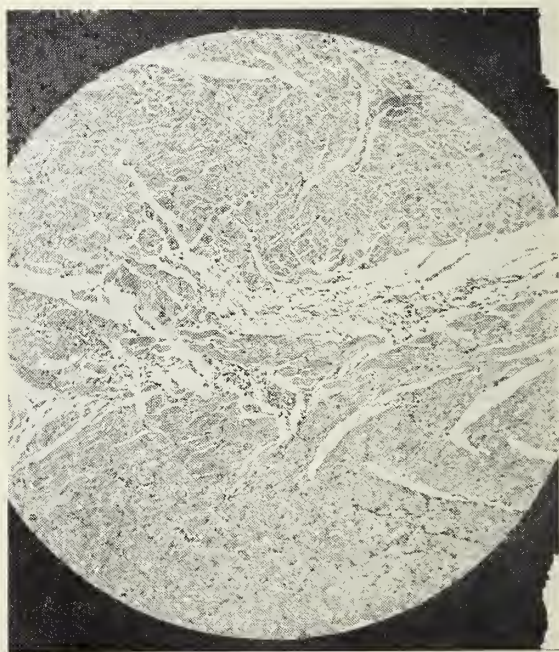


Figure 2. Section through myocardium showing lesion somewhat suggestive of Aschoff body.



that's lacking as far as Aschoff bodies are concerned proper, and the fact that they don't have the typical spindle shape in the septa.

I think that we have a very good case of periarteritis here. Although the appearance of the lung is not unlike tuberculosis, I have been unable to identify acid-fast organisms in the sections. Nor can I identify histoplasma in the sections. Many artefacts have been pointed out to me, but I am unable to see an etiological agent for this man's death. I do not know the cause of the pyelonephritis.

Dr. Wahl (Pathology): The patient does have a very definite chronic inflammatory process. The diagnosis of a periarteritis nodosa does not inform you as to the etiological agent back of it. Rich, for example, has demonstrated that periarteritis nodosa is one of the manifestations of hypersensitivity. It is possible that some of this reaction which we call periarteritis nodosa is connected with a reaction to sulfa compounds which he has had. There are a good many things here that suggest some other chronic infection, probably some type of mycosis. We couldn't tell whether this is tuberculosis or torula or just what it is. It is a focal proliferative inflammatory process of some kind. Whether that is all part of periarteritis nodosa I doubt very much.

The kidney has a rather peculiar picture. I think there is no question but that the patient's death was due to the kidney, but I think the kidney changes are secondary to something else. The kidney shows extensive infiltration of plasma cells and I thought there was an unusual number of eosinophilic cells. By the way, eosinophilic cells were found in quite a number of other fields. Eosinophilic cells are a characteristic feature of periarteritis nodosa.

Dr. Delp: Is there any comment? Yes, Dr. Douglas.

Dr. Douglas: (Medicine): It's rather difficult to explain this man's picture on the basis of any one disease. I wonder if anyone has considered the possibility of sarcoid disease? It started out with the typical lung lesions followed by arthritis. He had negative tuberculin tests, and all the way through the illness there has been the question of differentiation with tuberculosis. He later developed a positive tuberculin test, lymphadenopathy, a large spleen, and died with what passes for tuberculosis.

Dr. Delp: Dr. Wood, would you like to comment on this?

Dr. Wood: There are cases, of course, of both tuberculosis and of mycosis diagnosed pathologically as sarcoid and in which those organisms were isolated. I think that the diagnosis of sarcoid is just a sort of refuge from which you peek when you don't know what else the patient has.

Dr. Furculow: To make it perfectly clear for my

own mind, you pathologists think there were two lesions. Is that correct? A granuloma in which I should seriously disagree with Dr. Boley in saying it was tuberculosis. It is a granulomatous change and what you call periarteritis nodosa. Is that correct?

Dr. Wahl: Yes.

Dr. Furculow: How do you diagnose tuberculosis without finding the acid-fast bacilli?

Dr. Wahl: I want to say just one thing about sarcoid. From our point of view, this is not sarcoidosis. There are two things particularly. First, I've never seen sarcoidosis with eosinophilic cells. It might possibly occur. Another thing, I have never seen sarcoidosis with extensive areas of caseous necrosis, and both of these findings are present in this case.

Dr. Delp: Any other comments?

Dr. Max Allen (Medicine): I would like to agree with a previous statement that periarteritis nodosa as a cause of his illness from the beginning does not seem to fit too well.

Dr. Delp: Dr. Miller and Dr. Wenner, would you be willing to dismiss the diagnosis of torulosis as Dr. Furculow did?

Dr. Wenner: No, I wouldn't. I would like to add that I think the diagnosis of periarteritis nodosa here represents a terminal thing and from the point of view of the recovery of numerous etiological agents, any one might have started this picture out. We must give them serious consideration. I hesitate to bring it in, but both Dr. Furculow and I did see some very unusual bodies in the microscopic sections which we believe to be histoplasmosis capsulatum.

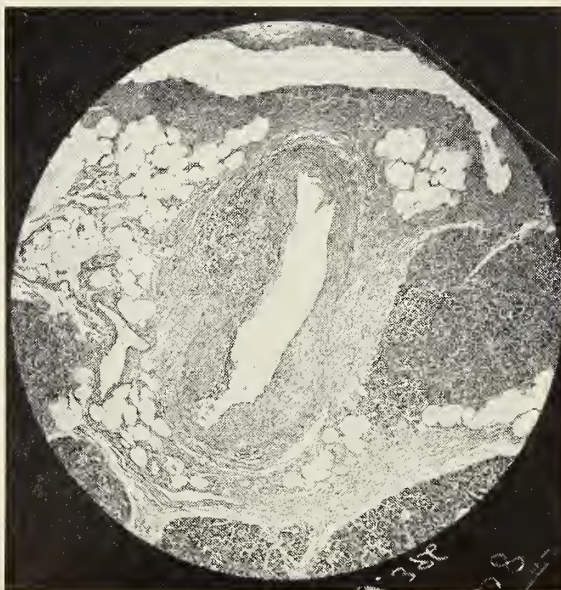


Figure 3. Photomicrograph showing arteritis and periarteritis.



Dr. Delp: You don't think they were artefacts?

Dr. Wenner: I'm convinced in my own mind that they are not.

Dr. Furculow: I did not dismiss the diagnosis of torulosis without competent consideration, Dr. Delp. All I can say is that we did not find the organism in spite of repeated cultures and I think we could recognize it. There is another possibility and that is people with other diseases, as is well known—people with tuberculosis, Hodgkin's disease, etc.—are quite likely to develop fungus infections. In fact, perhaps eight or 10 cases of histoplasmosis have been reported accompanying tuberculosis. There are also several cases in the literature reporting histoplasmosis and blastomycosis accompanied by other diseases. It is possible that he was infected because

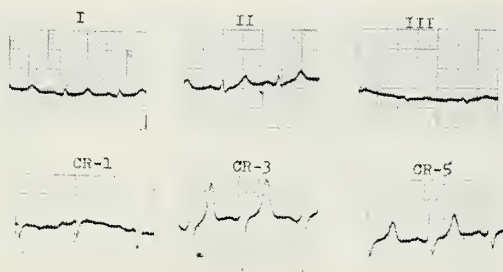


Figure 4. Electrocardiographic record.

of his generalized weakness. The fungus infection was not the cause of his terminal condition. I don't think that what Dr. Wenner and I saw were artefacts, either.

#### Summary

A long period of observation and hospitalization, much laboratory study, and many careful consultations failed to completely clarify this problem.

Several diagnostic suggestions seem superficial and poorly founded, but it is fairly reasonable to conclude that the patient had histoplasmosis, and that he died as the result of terminal renal insufficiency. The onset of the disease with skin lesions not unlike those seen in drug sensitizations, the persistent leukocytosis, the persistent eosinophilia, the joint symptoms, the late exfoliative dermatitis, the terminal renal failure, and finally the microscopic pathology speak strongly for the presence of one of the collagen diseases, periarteritis nodosa.

## ACTIVITIES OF MEMBERS

Dr. T. L. Foster, Halstead, became a diplomate of the American Board of Psychiatry after passing examinations given in New York in December.

Dr. Robert J. Kinney, who has been chief of medical services at the Santa Fe Hospital, Topeka, has

accepted an appointment as specialist in internal medicine at the Topeka State Hospital.

Dr. James T. Moy, physician at the Wichita Boeing plant for the past six months, has opened an office in Wichita for the practice of internal medicine. He is a graduate of Jefferson Medical College, Philadelphia.

Dr. James B. Campbell, Topeka, presented a paper, "Adenocarcinoma of the Choroid Plexus," at a meeting of the American Radiological Society in December.

Contributions to a memorial fund in honor of the late Dr. T. W. Reid, Gardner, are now being collected there. The fund will probably be used for a scholarship for a medical student. Dr. Reid, a member of the Johnson County Medical Society, was killed in an automobile accident December 5.

A paper written by Dr. C. A. Hellwig, Wichita, "Virus-Like Globules in Cancer Extracts—Electron-Microscopic Studies of 30 Human Tumors," was published in the Archives of Pathology, November, 1949.

Dr. Kenneth Powers, who had been practicing in Cawker City, has gone to Kansas City for postgraduate study at the University of Kansas Medical Center.

Dr. L. C. Murphy, formerly of the Wichita Hospital, went to Hutchinson last month to be pathologist at Grace Hospital.

Dr. Don Dieter, who recently returned from study in Vienna, has opened an office for the practice of surgery in Salina. After his graduation from Yale University School of Medicine, Dr. Dieter spent four years in postgraduate surgical work under Dr. Alton Ochsner, New Orleans, and three years as instructor in surgery at the Louisiana State School of Nursing.

Dr. Jacob T. Whallon, formerly of Wichita, is now practicing in Great Bend.

Dr. H. L. Patterson, formerly of Bushton, is now associated in practice with Dr. W. R. Brenner in Larned.

Dr. Laurence A. Clark, who recently completed a residency at St. Francis Hospital, Wichita, has gone to Harper to practice in association with Dr. L. C. Joslin.

Dr. Kenneth McLain, who was recently released after two years service in the air corps, has opened an office for practice in Ransom.

\* \* \*

Dr. C. R. Schmidt, who has been a member of the staff at the Hertzler Clinic since 1939, has gone to Colorado Springs to begin partnership practice with a former schoolmate, Dr. James Beazell. Dr. Schmidt will specialize in surgery.

\* \* \*

Dr. J. E. Hill, Wellington, has been granted a two months leave of absence from the Hatcher Clinic to study eye surgery under Dr. Ricardo F. Fernandez in San Juan, Puerto Rico.

\* \* \*

Dr. E. A. Stapleton, Jr., Overbrook, has announced that he will also maintain an office in Scranton and will practice there three mornings each week.

\* \* \*

Dr. Delbert V. Preheim, formerly of Moundridge, has begun a three-year residency in internal medicine at the University of Colorado Medical Center.

\* \* \*

Dr. William A. Smiley, Jr., has completed two and one-half years of graduate training in surgery at the New York University Bellevue Medical Center and is now practicing in Junction City in association with his father, Dr. William A. Smiley, Dr. R. M. Carr and Dr. W. A. Carr.

\* \* \*

Dr. John Turner, Garden City, has been reappointed health officer for Finney County.

\* \* \*

Dr. Jacob T. Whallon, formerly of Wichita, is now associated in practice with Dr. Charles L. White, Great Bend, specializing in internal medicine and cardiology.

---

## COUNTY SOCIETIES

---

Officers of the Bourbon County Medical Society for 1950 were elected at a meeting held at the Burke Street hospital, Fort Scott, late in December. They are: president, Dr. J. R. Prichard; secretary, Dr. Leland P. Randles.

\* \* \*

The Shawnee County Society entertained the Golden Belt Medical Society at the Hotel Jayhawk, Topeka, January 5. During the afternoon scientific session Dr. John Philip Berger, Wichita, spoke on "Problems in Current Management of Syphilis," Dr. Graham Asher, Kansas City, discussed "Management in Difficult Cardiac Problems," and Dr. William C. Menninger, Topeka, gave a paper on "Psychiatry in Its Relation to General Practice." A dinner meeting followed the program.

Officers of the Golden Belt Society this year are Dr. S. A. Anderson, Clay Center, president; Dr. H. S. Dreher, Salina, vice president; Dr. V. C. Wiksten, Topeka, secretary.

\* \* \*

The Clay County Society observed the 50th anniversary of its organization in December at a dinner meeting at the Clay Center Country Club, with members of the Auxiliary as hostesses. Officers of the Society are: president, Dr. C. H. Ruff; vice president, Dr. A. W. Butcher; secretary, Dr. F. D. Taylor.

\* \* \*

Dr. Ward W. Summerville was named president of the Wyandotte County Society at a meeting held at the City-County Health Center, Kansas City, December 20. Other officers are: vice president, Dr. E. J. Grosdidier; secretary, Dr. Maurice Ryan; treasurer, Dr. Emmerich Schulte; censor, Dr. J. W. Manley; delegates to state meeting, Dr. Lee Rook, Dr. W. F. Roth, Jr., Dr. G. R. Peters and Dr. Hughes W. Day.

\* \* \*

The 1950 officers of the Douglas County Society, elected at a meeting held in Lawrence in December,

## DEATH NOTICES

### ADOLPH BOESE, M.D.

Dr. Adolph Boese, 59, who had practiced in Coffeyville for 25 years, died at his home there December 26, 1949. He was graduated from the University of Kansas School of Medicine in 1924 and opened his office in Coffeyville immediately after graduation. He was an active member of the Montgomery County Medical Society.

\* \* \*

### ROSS EBERHARDT WEAVER, M.D.

Dr. Ross Weaver, 57, radiologist at St. Joseph Hospital, Concordia, until his retirement 10 months ago, died January 8. He was a graduate of the University of Kansas School of Medicine with the class of 1916, and had practiced in Concordia since that time except for an interval during World War I when he was in the service. He was an honorary member of the Cloud County Society.

\* \* \*

### HOWARD M. WHEELER, M.D.

Dr. Howard M. Wheeler, 61, an active member of the Wyandotte County Society, died January 11. He was graduated from the Kansas City College of Medicine and Surgery in 1920, and practiced for a short time in Helena, Oklahoma, before opening his office in Kansas City.



are: president, Dr. V. H. Hildyard, Baldwin; vice president, Dr. John Holmes, Lawrence; secretary, Dr. R. L. Dunlap, Lawrence; treasurer, Dr. R. B. Hutchinson, Lawrence.

\* \* \*

The Northwest Kansas Society elected the following officers at a meeting held January 5: president, Dr. W. W. McDougal, Colby; secretary, Dr. F. L. Smith, Jr., Colby.

\* \* \*

Dr. E. C. Duncan, Fredonia, completed 43 years as an officer of the Wilson County Society when he retired as president of the group at its December meeting in Fredonia. From 1907 until 1948 he served as secretary, leaving that position to become president. The 1950 president of the group is Dr. A. Mary Hayden, who will be assisted by Dr. J. W. McGuire, vice president, and Dr. Charles Stevenson, secretary-treasurer. Dr. Dale Smith was elected to membership at the meeting.

\* \* \*

Dr. W. G. Rinehart was named president of the Crawford County Society at a meeting held at Pittsburg December 29. Other officers are: Dr. Joseph D. Pettet, vice president; Dr. Howard R. Elliott, secretary-treasurer; Dr. Rinehart and Dr. Elliott, delegates; Dr. C. W. Erickson and Dr. C. H. Benage, alternates.

\* \* \*

Officers of the Pottawatomie County Society were elected at a meeting held in December. Dr. L. W. Cazier, Wamego, was elected president and Dr. R. M. Knox, Wamego, was named secretary.

\* \* \*

The January meeting of the Clay County Society was held January 11. The group met with the Auxiliary for dinner and then held a scientific session at the municipal hospital. Dr. Clyde B. Trees, Topeka, spoke on fractures. Dr. A. A. Fink, Topeka, was a guest.

\* \* \*

The Sedgwick County Society met January 3 at the Broadview Hotel, Wichita. Dr. James Barrett Brown, chief surgical consultant of veterans hospitals, was guest speaker. Officers installed at the meeting are: president, Dr. Earl L. Mills; vice president, Dr. G. F. Gsell; secretary, Dr. L. E. VinZant; treasurer, Dr. J. L. Beaver.

\* \* \*

Dr. W. L. Pratt was elected president of the Leavenworth County Society at a meeting held in January. Other officers are: vice president, Dr. Gordon Voorhees; secretary-treasurer, Dr. Vincent Christ.

\* \* \*

Officers for 1950 for the Franklin County So-

ciety were elected at a meeting held at Ransom Memorial Hospital, Ottawa, December 28. Those serving are: president, Dr. J. F. Barr; vice president, Dr. C. W. Henning; secretary-treasurer, Dr. L. N. Speer; delegate, Dr. F. A. Trump; alternate, Dr. R. A. Gollier.

\* \* \*

The Nemaha County Society met in Seneca January 10 and elected the following officers: president, Dr. R. E. Capsey, Centralia; vice president, Dr. Arthur Hayes, Sabetha; secretary-treasurer, Dr. C. C. Hunnicutt, Sabetha.

### Polio Grant of \$80,760

A grant of \$80,760 was awarded the University of Kansas School of Medicine last month by the National Foundation for Infantile Paralysis, Inc., for continuation in 1950 of research on poliomyelitis. Dr. Herbert A. Wenner, associate professor of pediatrics and bacteriology at the University of Kansas Medical Center, will continue as director of the project.

The Kansas study was begun a year ago with a grant of \$60,300, a large portion of which was spent for Rhesus monkeys brought from India. It is planned that more than 1,300 monkeys will be used in 1950 in the work of matching dosages of the classified strains of poliomyelitis against the three known serums prepared against standard strains.

### Federal Grant to Kansas

A federal grant of \$3,000 for a study of the metabolism of unsaturated fatty acids in fat-deficient rats during pregnancy was announced recently by the Federal Security Agency. The research is to be conducted at Kansas State College under the direction of Fred A. Kummerow.

The grant represents a part of a total of \$835,770 to be given non-federal institutions for a number of projects designed to provide new scientific data on a wide variety of human ailments. They include studies of the effect of parental age on longevity, the use of streptomycin in tuberculosis, the electrical activity of the central nervous system, psychosomatic aspects of peptic ulcer, the effect of ultrasonic vibrations on bacteria, and strains of influenza virus.

### Goiter Association to Meet

The American Goiter Association will meet March 9-11 at the Shamrock Hotel, Houston, Texas, and will present a program on goiter and other diseases of the thyroid gland.

## Report of Constitution and Rules Committee

The Committee on Constitution and Rules with the assistance of the attorney for the Kansas Medical Society has worked for a year revising the Constitution and By-Laws. A large number of amendments are offered for consideration by the House of Delegates at the next annual meeting of that body in May. Proposed amendments to the Constitution must be printed twice in the Journal. The proposed amendments to the By-Laws are also added to enable members to study these before they will be acted upon. Comments and suggestions are welcomed and may be directed either to the executive office or to the chairman of the committee. The following report then, as printed in this and a future issue of the Journal, represents the report of the committee of which A. W. Fegty, M.D., Wichita, Kansas, is chairman.

### Amendments to the Constitution

1. Article I. Name of this Society. Add—hereinafter called the Society.

2. Article IV. Composition of this Society. Section 2 shall be amended to read:

Section 2. The officers of this Society shall be a president, a president-elect, a first vice president, a second vice president, a secretary and a treasurer. All officers shall be elected by the House of Delegates of this Society for terms of office as are hereinafter provided.

3. Section 5 shall be added to read:

Section 5. The delegates to the American Medical Association shall be those members elected to represent this Society in the House of Delegates of the American Medical Association.

4. Old Section 5, now 6, shall be amended to read:

Section 6. The members of this Society shall be the active members in good standing of the component societies, military service connected members, members on leave of absence, the members in good standing of other societies approved by the Council and the honorary members who are elected as provided by the By-Laws.

5. Old Section 6, now 7, shall be amended to read:

Section 7. Guests properly registered and personally vouched for by a member may be admitted to the scientific work of the annual or called sessions.

6. Article VI. Council. Section 1 shall be amended to read:

Section 1. The Council shall consist of one councilor from each councilor district, and in addition the officers of the Society and the delegates to the American Medical Association as ex-officio members.

7. Section 4 now reads: The president shall serve as the presiding officer of the Council. This section shall be deleted.

8. Article VII. House of Delegates. Section 3 now reads: The president shall serve as the presiding officer of the House of Delegates. This section shall be deleted.

9. Article VIII. District Societies. Now reads: The House of Delegates and the Council may provide for the organization of such district societies as will promote the best interests of the medical profession: Provided, that each district society shall be composed exclusively of members of component societies within that councilor district. This article shall be deleted and subsequent articles renumbered consecutively.

10. Former Article IX now Article VIII. Annual Sessions. Section 1 shall be amended to read:

Section 1. This Society shall hold annual sessions which shall be open to all registered members and guests.

11. Former Article X now becoming Article IX. Terms of Office and Elections. Section 1. The clause "and shall continue until the close of the following annual session" following the definition of terms of office, shall be deleted as superfluous.

12. Former Article X now Article IX. Section 2 shall be amended to read:

Section 2. The officers shall be elected by the House of Delegates at the last meeting of that body in each annual session and in the manner provided by the By-Laws.

Section 3 shall be amended to read:

Section 3. The elections to fill expired regular terms or unexpired terms of councilors shall likewise be held at the last meeting of the House of Delegates of each annual session.

13. Former Article XII now Article XI. Section 2 shall be amended to read:

Section 2. The Council shall elect one of these members as editor of The Journal of The Kansas Medical Society and as chairman of the Editorial Board each year.

14. Former Article XIII now Article XII shall be amended to read:

Funds of this Society shall be raised by an equal annual per capita assessment collected by each component society.

15. Former Article XV now Article XIV. The middle of Section 2 shall be amended by the deletion of the words "diligent and careful" and substituting therefore the word "proper."

### Amendments to the By-Laws

16. Chapter I. Membership. Section 1 shall be amended to read:

Section 1. The name of a physician appearing on



the properly certified roster of members of a component society which has paid the full amount of his annual assessment, shall be prima facie evidence of membership in this Society.

17. Chapter II. Assessments. Shall be amended to read:

Section 1. The amount of the annual assessment for the Kansas Medical Society only shall be not more than etc., and by the addition of Section 2.

Section 2. Assessments shall include subscription to the Journal of the Kansas Medical Society at a rate determined by the Editorial Board with the approval of the Council.

18. Chapter IV. General Meetings and Sections. Section 3 shall be amended by the elimination of the two words "or commissions."

19. Chapter V. House of Delegates. Section 3 shall be amended to read:

Section 3. Each component society shall elect to the House of Delegates each year one duly qualified delegate and one alternate for every 20 members or major fraction thereof: Provided, that each component society which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to at least one duly qualified delegate. It shall be the duty of the secretary of each component society to send to the executive secretary of this Society a list of delegates and alternates of that society at least 30 days prior to each annual session.

20. Section 5 shall be amended to read:

Section 5. In the event that an elected delegate shall find it impossible to attend an annual or special session of the House of Delegates, his alternate shall qualify himself to the Committee on Credentials to serve instead of the elected delegate. In the event a particular component society is not represented by either delegate or alternate at a meeting of the House of Delegates, that body by majority vote may elect a member of that component society to serve as a delegate for that meeting.

21. Section 9 which details order of business of meetings of the House of Delegates shall be amended in the portion specifying the election of delegate-elect to the American Medical Association by the inclusion of an alternate for that position, making that portion read "delegate-elect and alternate to the American Medical Association."

22. Section 17. That portion which now reads: Alternate or alternates shall be elected each year for two-year terms, who may be certified to substitute for any delegate unable to attend an annual or interim session during his term of office, shall be deleted and a new Section 18 inserted to read:

Section 18. An alternate to the delegate-elect shall be elected each year who shall be certified to sub-

stitute for that delegate in case of removal, resignation, or inability to attend an annual or interim session during his term of office.

Present Section 18 then becomes Section 19.

23. Chapter VI. Election of Officers. A new Section 1 shall be inserted and present Sections 1, 2 and 3 shall be renumbered so as to be Sections 2, 3 and 4 respectively.

Section 1. A Nominating Committee consisting of the immediate past president, two councilors elected by the Council and two delegates in attendance at the last annual session, appointed by the president, shall meet at least 90 days before each annual session and nominate three candidates for president-elect and two or more candidates for each other elective office. Their report shall be presented at the first meeting of the House of Delegates of each annual session.

24. Section 2, becoming Section 3 if Amendment 23 is passed, shall be amended to read:

Section 3. All elections of officers shall be by secret ballot unless a single candidate is nominated for an office, whereupon the vote may be taken viva voce. If upon any ballot on more than two candidates no nominee shall receive a majority, the name receiving the smallest number of votes shall be dropped and the balloting continue in that manner until a majority is obtained. Nominations for all offices may be made from the floor in addition to the recommendations of a nominating committee.

25. Chapter VIII. The Council. Section 1, that portion which now reads: Provided, that the Council or the Executive Committee may not bind this Society in any way beyond the next annual meeting of the House of Delegates, shall be amended to read:

Provided, that the Council or the Executive Committee may not bind this Society in any way beyond the next annual or called meeting of the House of Delegates:

26. Chapter VIII, Section 4 shall be amended to read:

Section 4. The Council is authorized to organize and issue charters to single or multi-county component societies.

Present Section 5 which provides for district societies is hereby deleted. Section 6 is retained, Section 7 becomes Section 5 and Sections 8, 9 and 10 become Sections 7, 8 and 9 respectively.

27. Chapter VIII. Present Section 11 now becoming Section 10 shall be amended to read:

Section 10. In the event of a death, resignation, or removal in the office of second vice president, secretary, treasurer, or a councilor, the Council shall elect a successor to fill the vacancy. At the next annual meeting of the House of Delegates a caucus of delegates from the councilor district affected shall



The Bettman Archive

The nausea, vomiting and dizziness of motion sickness may be prevented or relieved, in a high percentage of cases, with Dramamine\* (brand of dimenhydrinate).

**DRAMAMINE** for the Prevention and Treatment of Motion Sickness.



\*Trademark of G. D. Searle & Co., Chicago 80, Illinois

RESEARCH IN THE SERVICE OF MEDICINE

**SEARLE**



select a councilor to complete the regular three-year term. When such replacement term shall be for two or more years, the member selected shall be eligible to re-election for only one regular term.

28. Chapter VIII. Sections 12 and 13 becoming Sections 11 and 12 shall be condensed to form a new Section 11 to read:

Section 11. The Council shall meet at the conclusion of each annual session and at intervals during the year at the call of the president or on petition of five members of the Council. Adequate notice shall be given as to time and place.

29. Present Section 14 becomes Section 12. It shall be amended to read:

Section 12. Eleven members of the Council shall constitute a quorum.

30. Chapter VIII. Section 15 becoming Section 13 which designates the counties in each councilor district shall be amended at the request of Leavenworth County so that Leavenworth County is removed from the second district and re-assigned to the first district. The composition of all other districts remains as before.

31. Section 16 becomes Section 14.

Section 17 becoming Section 15 delineates the duties of councilors. This shall be amended by the addition of the following paragraph:

Each councilor shall be designated by the president as council representative to certain committees. He shall attend those committee meetings, reporting activities to the Council and when necessary secure Council approval of work undertaken or proposed.

32. Chapter XI. Committees. Section 1. Committees are alphabetically arranged and numbered consecutively. Present Committee on Insurance and Industrial Medicine, No. 29, shall be changed to the Committee on Industrial Medicine and becomes No. 21 and consecutive numbering of following committees is changed.

33. Chapter XI. Present Section 22. Committee on Medical Economics. Wording is amended to conform to present committee assignments as follows:

Section 22. The Committee on Medical Economics shall consist of a least five members. The duty of this committee shall be to investigate matters affecting the status of medical economics including indigent care, border line income conditions for medical care, accident, health and hospital insurance to individuals or groups and Social Security problems, etc. They shall advise the officers and the Council from time to time and the House of Delegates annually as to their findings and recommendations for means by which this Society as a whole, the component societies as units and the members as individuals may improve the economic status of the public and the medical profession. At least two

members of this committee, one of whom is the retiring chairman, shall have served on the retiring committee.

Chapter XI. Present Section 29 to become Section 21 formerly known as the Committee on Insurance and Industrial Medicine shall be amended to read:

Section 21. The Committee on Industrial Medicine shall be composed of at least five members. It shall be the duty of this committee to study and become intimately acquainted with every movement agitated, proposed or attempted to enact or be enacted, that has for its object either secret or avowed the providing of industrial or compensation health, and/or accident medical insurance for public service or commercial employees of persons, companies or corporations either collectively or singly which affects the economic or financial status of the members of this Society, to represent this Society in efforts to secure greater cooperation and greater mutual understanding between medical men and employers of labor or their insurance carriers concerning the rendition of professional services in industrial cases and the amount and character of compensation therefore; to devise and advise whenever intelligent action on the part of this Society is desirable upon these questions and to report in writing its findings, recommendations and information obtained to this Society or to the House of Delegates. A portion of its members and whenever practical the retiring chairman, shall be included in its membership.

35. Chapter XII. Section 14 now reads: The secretary of each component society shall forward the assessment of that society, together with its roster of officers, members and list of non-affiliated physicians to the executive secretary on or before the first day of February of each year. Section 14 shall be amended by the addition of the following:

As a personal convenience to members desiring American Medical Association membership, the secretary of each component society may transmit through the central office of this Society individual checks or funds for membership assessments of that organization.

---

Advertisers in the Journal are carefully selected. Only those meeting our advertising standards may use the facilities of our pages. No advertisement will be accepted which, either by intent or inference would result in misleading the reader. May we suggest that you review the ads in each issue of the Journal and, when occasion arises to prescribe products featured or use the facilities offered, tell them you saw their ad in the Journal of the Kansas Medical Society.

**"The . . . estrogen  
preferred by us is  
'Premarin,' a mixture  
of conjugated estrogens,  
the principal one  
of which is  
estrone sulfate."**

Hamblen, E. C.: North Carolina M. J. 7:533 (Oct.) 1946.

In treating the menopausal syndrome with "Premarin," Perloff\* reports that "Ninety-five and eight tenths per cent of patients treated with 3.75 mg. or less daily obtained complete relief of symptoms"; also, "General tonic effects were noteworthy and the greatest percentage of patients who expressed clear-cut preferences for any drug designated 'Premarin,'"

Thus, the sense of "well-being" usually imparted represents a "plus" in "Premarin" therapy which not only gratifies the patient but is conducive to a highly satisfactory patient-doctor relationship.

Four potencies of "Premarin" permit flexibility of dosage: 2.5 mg., 1.25 mg., 0.625 mg. and 0.3 mg. tablets; also in liquid form, 0.625 mg. in each 4 cc. (1 teaspoonful).



\*Perloff, W. H.: Am. J. Obst. & Gynec. 58:684 (Oct.) 1949.

**"PREMARIN"®**

While sodium estrone sulfate is the principal estrogen in "Premarin," other equine estrogens...estradiol, equilin, equilinenin, hippulin...are probably also present in varying amounts as water-soluble conjugates.

*Estrogenic Substances (water-soluble) also known as Conjugated Estrogens (equine)*

Ayerst, McKenna & Harrison Limited  
22 East 40th Street, New York 16, N. Y.





---

## KANSAS STATE BOARD OF HEALTH

---

### Meeting the Health Needs of Kansas

*Condensed from paper delivered at Health Conference, Wichita, November 7, 1949, by F. C. Beelman, M.D., executive officer and secretary, Kansas State Board of Health.*

Sixty-five years ago the state of Kansas, through its legislature, made the first official move to conserve the health of its people. In a publication of the Kansas League of Municipalities entitled, "Kansas Government," under the chapter "Conservation of Resources," is found the following commentary on this first health agency:

"Conservation of health, an important function of the state, is carried on chiefly by the Kansas State Board of Health. This is the oldest administrative board now in existence. Created in 1885, the board consists of nine physicians and a lawyer. The board appoints a secretary and executive officer. The work of this agency is a happy combination of law and science working together. As science discovers the causes of human ailments and diseases and the methods for their control or prevention, the State Board of Health uses the knowledge and its legal powers to protect and promote our health."

This is a short and concise description of the Kansas State Board of Health; however, it does not tell the story behind the laws that created a board of health in Kansas. As early as 1882, Dr. G. W. Haldeman, of Paola, president of the Kansas Medical Society, called attention to the desirability of creating an official state health agency in his opening address to the annual May meeting.

Legislation considering formation of the Board was not passed during the session of the legislature in 1883. Consequently leaders of Kansas medicine made a more determined effort in 1885. Meeting together in Topeka on January 22, 1885, Dr. Mitchell, then president of the Kansas Medical Society, moved that the Society deliver to Governor Martin a vote of thanks for the mention of a board of health bill in his message to the legislature and recommended that the Society remain in session until general agreement on a suitable bill was secured. Dr. Mitchell further stated, "We must use every honorable means and due discretion to get this done." The bill was passed by the legislature in March 1885, and the first organized meeting of the Board was held on April 10, 1885.

From the very beginning the destiny of the Board was closely linked to that of organized medicine in Kansas. Its programs and activities have been guided

and developed down through the years for the benefit of Kansas citizens by sound medical leadership, both on the Board and through advisory medical committees.

All of the states of this midwestern area, within a period of 15 years (1875-1890), created state boards of health and started state-wide programs to safeguard the health of their citizens. Today, this midwestern area has the lowest death rate, the lowest rate of illness, and the greatest longevity of any area in the United States. The health standards of Kansas are among the highest, and its death rate among the lowest of all the states. The record is one that has not occurred through chance.

We have only to glance at the past to see how well the principles of preventive medicine have been developed and applied in trying to understand the health needs of today. The leading cause of death for so many centuries, tuberculosis, is rapidly yielding to many factors active in its prevention. In Kansas it has been reduced to ninth place as a cause of death. Malaria and typhoid fever have been greatly reduced and are rapidly becoming rare diseases.

Smallpox is completely under control. Diphtheria is rapidly being reduced and, in recent years, seldom occurs in serious proportions. If every physician would immunize and vaccinate his susceptible patients as a matter of routine office practice, smallpox and diphtheria would soon become rare diseases in Kansas. The control of serious outbreaks of enteric diseases, particularly among infants, has been an important factor in the great reduction of the infant mortality rate.

In looking at the past, I digress only long enough to emphasize the important changes which have taken place. With one exception, tuberculosis, the diseases I have mentioned have passed from among the 10 leading causes of death which account for approximately 82 per cent of all deaths today. Preventive measures, when applied by physicians, health workers, and an enlightened public, are effective and have been responsible for the control of these health hazards and many others. Within a lifetime, modern medicine has made tremendous strides in the control of germ-borne diseases, increasing the expectancy of life by more than a quarter of a century. Freedom from fear is more than a phrase, it has become a reality in the field of health. Children have a better opportunity today for a longer life, free from sickness and unnecessary suffering, than ever before. Only under a free and democratic system of government, where individual initiative and effort is given every opportunity of expression, could such progress be made. With progress come changes, and the Kansas State Board of Health, to-



## *Ready, Willing and Able*

Here is a typical distributor of Luzier products about to step into your home.

**SHE'S READY . . .** to fit her appointment into your busy day—to consider your beauty problems, in the privacy of your home, at a time convenient for you.

**SHE'S WILLING . . .** to give freely of her time and talent, selecting just the right preparation for your particular needs and showing you how to apply them to best advantage.

**SHE'S ABLE . . .** to answer your questions and give good advice about cosmetics and grooming. Aided by the Luzier Selection Questionnaire, the Selection Dial, and her wealth of experience, you may choose wisely and well from an unusually extensive line of beauty preparations.

### LUZIER'S FINE COSMETICS AND PERFUMES

*Are Distributed in Kansas By:*

BURBRIDGE AND BURBRIDGE, Divisional Distributor  
519-520 Continental Bank Building  
Lincoln, Nebraska

CHINN AND CHINN  
324 N. Rutan  
Wichita, Kansas

KERN WISMAN  
1123 So. 14  
Lincoln, Nebraska

VERN HAZELL  
401 East 9th  
Hutchinson, Kansas

KATHLEEN SCOGGIN  
707½ Commercial  
Atchison, Kansas

MAXINE DELFORGE  
1911 Grove St.  
Topeka, Kansas

GLADYS P. MILLER  
616 East Kansas  
McPherson, Kansas

ERMA WELLS  
Room 200, 635 Kansas  
Topeka, Kansas

JUANITA DOUGLAS  
4232 S. Broadway  
Wichita, Kansas

ETHEL PERRY  
P. O. Box 275  
Ft. Dodge, Kansas

OTTIE HOOD  
P. O. Box 309  
Hutchinson, Kans.



gether with other state health agencies, finds itself in a period of readjustment or transition.

The 10 leading causes of death, heart disease, cancer, diseases of the vascular system, nephritis, accidents, diabetes, pneumonia, the premature infant, tuberculosis, and influenza, present a challenge that must be met. The leading causes of sickness, the common cold, measles, influenza and pneumonia, chickenpox, mumps, scarlet fever, whooping cough, the venereal diseases, and poliomyelitis, have yet to be effectively controlled. The virus diseases, measles, mumps, chickenpox, influenza, poliomyelitis, and the common cold, account for the major loss of time through illness. Among the first 10 causes of illness must be placed mental disease. The prevalence of mental disease is unknown; however, we do know that more institutional beds are occupied annually by mental cases than the combined total of beds in general hospitals over the state.

Health hazards which lie ahead of us are now more difficult to solve. Transmission of the virus diseases, through exposure, occurs long before such techniques as isolation can be used. There are no known methods which can be used today in checking the spread of poliomyelitis through a community. Through legislation, which brought about supervision of water and food supplies, typhoid fever, one of the former leading causes of sickness and death, is now a rare disease in Kansas. Thirty years ago laws requiring the use of an antiseptic, silver nitrate, in the eyes of newborn infants, wiped out one of the leading causes of blindness and defective vision in a matter of a few years. Legislation in the future will no longer play a major role in the control of our leading causes of death. The many schemes for socialization of medical practice are not the answer. The heavy burden of the cost of such programs will not return to the taxpayer a longer life, free from disease. In fact, there is no claim by their proponents that such will be the case.

Safeguarding health today, more than ever, is everyone's responsibility. The principles of preventive medicine must be applied on a broad front by an alert, well-informed cooperative public. I am using the term "preventive medicine" in its broadest sense—that is, the use of any remedy which will prevent disease or result in the saving of a life. Conceivably it could be the passage of a law such as already mentioned, a health talk, or a film that motivates the individual to act in his own best interests in safeguarding his health. The physician in private practice, applying those same principles, was, and is today, the leading and most important factor in the control of disease and in reducing premature deaths from preventable causes in any com-

munity. The interested, health-minded citizen, for example, who passes along to his neighbor accurate information about cancer that motivates a visit to a physician where a diagnosis of early cancer is made, which is finally removed by a surgeon, is just as important in the saving of the life of his neighbor as the surgeon. The complete and final control of tuberculosis, for example, is only possible through the cooperation of all citizens in the use of facilities now available to them.

The newest health programs being developed today in an effort to meet specific health hazards are those aimed at the reduction of the great number of lives lost to the leading cause of death, the cardiovascular diseases. In cooperation with an Advisory Heart Committee of the Kansas Medical Society a state-wide program is under study and development. The Kansas Heart Association, a fast growing, new addition to the voluntary health associations, will soon be in position to carry out a state-wide lay educational program.

Cancer ranks as the second cause of death in Kansas. A Division of Cancer Control has been established in the State Board of Health and an active program has been developed in cooperation with state and local medical society committees and the Kansas Division of the American Cancer Society. More than 60 per cent of funds now available is going directly into local communities to assist in the development of effective control programs. A conservative estimate indicates that at least 50 per cent of those who die of cancer could be saved.

Accidents, the fourth cause of death, are, perhaps, the most preventable of all the misfortunes of mankind. State-wide accident prevention programs are still in the experimental and planning stage. There is, apparently, no nation-wide uniform, well-organized agency, either official or voluntary, with full-time personnel and funds actively covering the broad field of accident prevention. Many states have funds appropriated for various phases of accident prevention. No specific federal funds, or national voluntary agency funds, appear to be available to states for demonstrations, program planning, or the training of personnel in the field of accident prevention.

The many facets of the accident problem demand that a great variety of forces work together for its solution. In recent years, motor vehicle and traffic accidents have received wide attention. As a result, more states have organized programs within state highway departments working on this specific problem than in any other accident field. Industries have done an outstanding job in solving their own accident problems. On the other hand, one of the most important aspects of the accident problem, "home accidents," which rank as the ninth specific cause



# NOW... **ADDED CONVENIENCE FOR THE PATIENT**

The "RAMSES"\* Tuk-A-Way† Kit provides added convenience for the patient, for she will find, neatly assembled in this colorful, washable plastic kit, all the units required for optimum protection against conception: a "RAMSES" Flexible Cushioned Diaphragm of the prescribed size; a "RAMSES" Diaphragm Introducer of corresponding size; and a regular-size tube of "RAMSES" Vaginal Jelly.‡

The Tuk-A-Way Kit packs inconspicuously in the corner of a traveling bag or dresser drawer. It is available to patients through all pharmacies.

\*The ward "RAMSES" is a registered trademark of Julius Schmid, Inc. "RAMSES" Vaginal Jelly is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. The "RAMSES" Diaphragm and Diaphragm Introducer are accepted by the Council on Physical Medicine and Rehabilitation of the American Medical Association.

†Trademark of Julius Schmid, Inc. ‡Active Ingredients: Dodecaethyleneglycol Manolaurate 5%; Boric Acid 1%; Alcohol 5%.



*gynecological division*

*Julius Schmid, Inc.*  
423 West 55th Street, New York 19, N. Y.

quality first since 1883



of death in the United States is not a major interest of any state agency. No health need today in Kansas will require greater coordinated active interest and effort on the part of its citizens for solution than the problem of accident prevention.

One of the most neglected groups of our people today is that group suffering from mental illness. The scope of this problem, as mentioned previously, is unknown because of the difficulties involved in building a state registry. Kansas is swinging into action to meet this health need. Under the able leadership of Governor Carlson, the 1949 legislature took active measures to improve the standards of psychiatric treatment and care of mental patients in our state institutions. Physical plants are being reconditioned and expanded. In addition, an appropriation was made for the construction of a psychiatric teaching unit at the University of Kansas Medical Center. The successful experience gained during the war in handling mental illness paved the way for a program that could be applied through public health measures. Within the past two years, a Division of Mental Hygiene has been created within the State Board of Health which is actively engaged in the promotion and development of a state-wide mental health program.

One of the important needs to secure the health of the people, particularly in western Kansas, has been the need for physicians, hospitals and diagnostic facilities. Following the passage of the Hospital Survey and Construction Act by Congress in 1946, approximately a million dollars annually were made available to the state to assist in the construction of hospitals, where needed. Few health programs have gained wider interest and support at the community level than the program of planning for and building adequate hospital facilities. Within the past month, amendments to this act have more than doubled the allocation to the state and have increased to five years the length of the construction program. Small, combination diagnostic and hospital units, with the doctor's office, laboratory and x-ray, surgery, delivery and examination rooms, together with 10 to 15 to 20 beds all under one roof, undoubtedly, will solve the medical and hospital needs of rural areas. Young physicians finishing their internships are keenly interested and are being attracted to communities which are building such facilities. A community hospital with the modern concept of meeting all the health needs of the people it serves will have a great beneficial influence on the health of the community. Physicians working as a team servicing small hospitals can render the best possible medical care for rural areas.

In meeting Kansas' needs for physicians, the 1949 legislature granted appropriations to the University

of Kansas for the expansion of teaching facilities. Action has been started by the University Medical Center to provide a flow of medical students to Kansas communities.

A program is being developed to save the lives of premature infants from illnesses which continue to be the eighth cause of death in Kansas. The program includes furnishing hospital incubators and transportation incubators, special training for nurses and doctors, coordination of public health nursing services, and setting up standards of care as guides to hospitals and doctors. There have been 87 incubators distributed to hospitals throughout Kansas, and it is estimated that 30 more will be needed. Sixty-two hospital and public health nurses and 157 physicians have received special courses in the care of the premature infant.

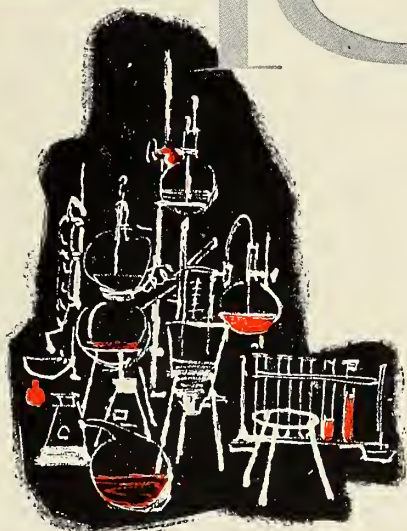
Possibly no health movement or trend has gained greater headway during the past few years than an awareness on the part of the people of the value of local health services. One of the important phases of a broad comprehensive program to secure the health of Kansas people is the development of health services on a county or multi-county basis. Permissive legislation was passed by the 1945 legislature which enables local areas to develop the type of health organization they desire. At the present time the Kansas State Board of Health has been financially assisting health services in more than 25 counties. A plan has been prepared and is being followed in this gradual expansion of health services. Sixteen county health units covering 44 per cent of the population in Kansas have been developed on a cooperative basis, or approximately one-half of the total number of units planned for the state. At least six additional counties or areas are ready to participate on a cooperative basis, providing funds and personnel can be obtained.

Health needs in the field of environmental sanitation have, in no way, been completely solved. With the passage of the Federal Water Pollution Control law activities will be stepped up greatly in uncovering and correcting sources of stream pollution. It is most fortunate for Kansas that these activities are gaining headway at this time. With the present trend of increasing industrialization of the state, it is imperative that our water supplies be protected. Fresh water is one of our most valuable assets. In eastern states many streams, rivers, and coastal areas are open sewers, jeopardizing both life and property values. Acting now to keep our streams in good condition is one job less for our children. Industrial air pollution is an increasing health problem. Insect and rodent control, garbage and trash disposal are constant problems that must be satisfactorily handled. Protection from pollution

**AUREOMYCIN HYDROCHLORIDE LEDERLE**

*in resistant  
staphylococcal infections*

# AUREO- mycin



Aureomycin has been shown to be highly useful in the control of staphylococcal infections, many of which exhibit a high degree of resistance to other antibiotics and chemotherapeutic agents. The prognosis in systemic staphylococcal infections is sufficiently serious so that the optimum treatment should be administered immediately, and continued for one or several days after the temperature has subsided to normal.

Aureomycin has been found effective for the control of the following infections: bacteroides

septicemia, brucellosis, Gram-negative infections — including those caused by the coli-aerogenes group, Gram-positive infections — including those caused by strepto-

cocci and pneumococci, granuloma inguinale, lymphogranuloma venereum, *Hemophilus influenzae* infections, primary atypical pneumonia, psittacosis, Q fever, rickettsialpox, Rocky Mountain spotted fever, penicillin-resistant subacute bacterial endocarditis, sinusitis caused by susceptible organisms, tularemia, typhus, bacterial and viral-like infections of the eye.

**Capsules:** Bottles of 25, 50 mg. each capsule. Bottles of 16, 250 mg. each capsule.

**Ophthalmic:** Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.



and constant improvement of drinking water for our communities are important responsibilities. As postwar community building projects, adequate water and sewage disposal systems are far in the front of other projects. Without question, more effort is being made today to improve our environmental living conditions than at any previous time. Kansas communities can be clean and healthful. Trash and garbage dumps on the doorsteps of villages are passing with the horse and buggy.

It is clearly evident that all of the recently added programs aimed at meeting specific health needs of the people are of benefit and can be developed on a sound, cooperative basis without interruption of our present accepted pattern of medical or health services. New health programs are being developed in Kansas under the guidance of consultation groups. Progress in controlling our leading causes of death and sickness today can be made only as an enlightened public accepts and practices the principles of preventive medicine. In closing, I am quoting a few sentences from a publication entitled "Health and Social Evolution," written by an Englishman, Sir George Newman in 1931. It is apparent that this bit of philosophy has been lost in the shuffle of socialization.

"...In order to bring health to a people (as distinct from an individual) its ideas and ideals must receive their common assent, must be administered by central and local authorities closely co-operating, and must depend in large measure upon voluntary service and the voluntary spirit. More than any other single activity of government a public health service can only be effective if it is received and practiced by an enlightened people. They are partners here, and must take a sensible and intelligent share; for the matter is domestic and personal, an issue to be determined by man's will, or it is nothing."

---

## THE KANSAS PRESS LOOKS AT MEDICINE

---

### The Issue of Medicine

Apparently a full-scale battle is in the offing on the issue of compulsory health insurance, or socialized medicine, or whatever other label may finally be attached to the proposal for government regulation of medical services. The Federal Security Administration has been busy gathering arguments in support of the program; the American Medical Association has levied a special assessment on its members to obtain funds to fight it.

Some independent studies should by all means be made by congress before an attempt is made to decide whether such a program should be adopted—

and what it will cost. Congress should first determine exactly what problems of medical care require solution.

What are the exact facts? The statistics so far presented by both advocates and opponents of a federal medical program are generalities; they indicate that a problem exists but not the detailed nature of the problem. Before an intelligent decision can be made we must know exactly what kind of problems we have and how big they are and then the proposed steps can be considered to see if they offer promises of meeting them.

All this would take time and be costly. But its cost in time and money would not be nearly so great as the cost of a decision based on scanty information might prove to be in the long run.

England has tried it and it is a miserable costly failure. The United States does not have to follow blindly the steps of a socialist government. It should have more sense.—*Abilene Reflector-Chronicle, December 17, 1949.*

\* \* \*

### No Worries For Them

The Truman Fair Dealers probably will scream like panthers over the American Medical Association's decision to raise a \$3,000,000 annual fund to fight socialized medicine.

The Fair Dealers, of course, don't have to worry much about the problem of finding funds to finance the other side of the fight.

They draw the principal sustenance for their offensive against private medicine directly from the United States treasury and indirectly from every citizen of the land, including those whose businesses they are trying to destroy.

That, of course, is not only perfectly all right, but by the modern standard of doing things it is pretty smart as well.—*Arkansas City Traveler, December 9, 1949.*

\* \* \*

### Pink Medicine

The American Medical Association has ordered its members to contribute \$3,000,000 for the fight against socialized medicine. The \$25-a-head levy, which will be collected by county medical societies, will come from all members except the retired, ill, fledgling and financially-straitened docs.

Fine.

We assume that the fund will be used for keeping politicians from getting into the pink ideology.

What about using such funds for promoting better medical service, educating more doctors, and otherwise overcoming the deficiencies that make the people of the country look to their government to provide services they need?

Expand medical facilities, spread out the doctors so that they are available everywhere, make the pro-

# When little patients act MULISH...

Try *Dulcet* Penicillin Tablets—appealing, candy-like cubes  
that pack the therapeutic potency of 50,000 units of penicillin

G potassium (buffered with 0.25 Gm. calcium carbonate).

Stable indefinitely, cinnamon-flavored *Dulcet* Tablets possess the same  
antibiotic action as an equal unitage of penicillin in unflavored  
tablets. Although designed for easing the administration of oral  
penicillin to children, *Dulcet* Tablets are preferred by many adults  
who simply wish to avoid unpleasant tasting medicine. *Dulcet* Penicillin

Potassium Buffered Tablets are available at  
pharmacies everywhere—in bottles  
of 12. For literature, write to

ABBOTT LABORATORIES,  
North Chicago, Illinois.



S P E C I F Y

**DULCET®**

PENICILLIN

*Potassium Tablets*

(B U F F E R E D)

® MEDICATED SUGAR TABLETS, ABBOTT



fession of "country doctor" more attractive, promote health services—and the chances are that there won't be such demand from the folks back home for any color of medicine except the old-fashioned dyed-in-the-wool service they had in the years before the war.—*Dodge City Journal, December 15, 1949.*

\* \* \*

#### Doctors Will Advertise

The American Medical Association has assessed its membership \$25 apiece to pay for an advertising campaign in all the newspapers of the United States to acquaint the public with doctors' side of the controversy over socialized medicine. The trouble that the American Medical Association is in is one of their own making. The doctors have merely pulled the house down on their own heads. The American Medical Association has become so powerful, so domineering in its opulence that it has become a serious menace to the public welfare, and socialized medicine is the only thing appearing as a remedy with any show of adoption at this time.

When the railroads, banks, insurance companies, labor unions, etc., reached the same stage in their growth and development as to become an obstacle to the public welfare, they were placed under federal regulation. The same thing is coming to the American Medical Association. Socialized medicine is the only thing that has appeared as a remedy. While we would hate to see socialized medicine (or anything else socialized for that matter) it is the only thing showing up so far as a remedy.

The teachers' organization is headed along the same lines and if there isn't a halt in present trends, the federal government will have to take over the entire public school system within five years. Let it be hoped that measures for the control of the teachers' organization will not necessarily be as drastic as those proposed for the organized medical monopoly and the labor organizations.—*Esbon Times, December 29, 1949.*

---

## BOOK REVIEWS

---

*An Atlas of Amputations.* By Donald B. Slocum. Published by the C. V. Mosby Company, St. Louis. 562 pages, 564 illustrations. Price \$20.

Here is a book which will delight those inquiring physicians who desire more than a casual acquaintance with amputation surgery, the problem of prostheses, and rehabilitation of the amputee. It discusses extensively all phases of the indications, the preoperative care, the anesthesia, the operative technique, the postoperative management, complications of amputations, the mechanics of the extremity after amputation, prostheses, physical med-

ical measures applicable to the convalescent period, and rehabilitation of the amputee.

For the most part the book was written by the author, formerly chief of the amputation section, Walter Reed General Hospital. However, the chapter on anesthesia was composed by Dr. E. M. Papper, New York University College of Medicine, while the section on physical medicine in the treatment of lower extremity amputations was written by Dr. Donald L. Rose, University of Kansas School of Medicine.

The book is profusely illustrated with excellent sketches, numerous photographs, and composite stroboscopic pictures of lower extremity amputees in motion.

Besides the orthopedist, the general surgeon and those specializing in physical medicine, the book will be of value anywhere that problems concerning amputees arise. Its only possible criticism is the price.—*C.F.K.*

\* \* \*

*An Atlas of the Blood and Bone Marrow.* By Philip Custer. Published by W. B. Saunders Company, Philadelphia. 321 pages, 288 illustrations, many in color. Price \$15.

This book is truly an atlas of the blood and bone marrow. Hematologic disorders of the blood forming organs of both primary and secondary types are clearly demonstrated by excellent illustrations, the majority of which are actual photomicrographs. Thus one sees blood cells as though looking through a microscope, which is definitely an improvement over an artist's concept.

In addition to the excellent illustrations the text is not too brief, but concise, and includes practical data on clinical features and diagnostic criteria. Clinical notes on the cases presented are well presented.

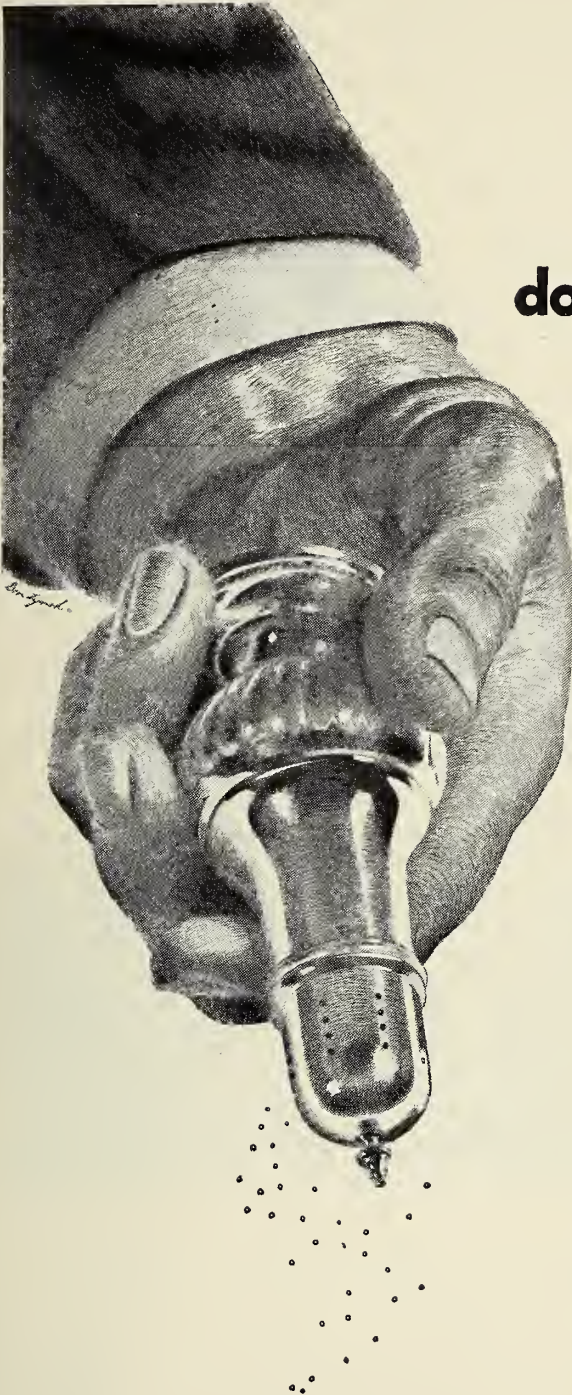
The material is presented in a manner so that the book will be of value to the general practitioner as well as to the clinical hematologist, pathologist, internists, and technicians.—*S.J.W.*

\* \* \*

*Diseases of the Heart.* By Charles K. Friedberg. Published by W. B. Saunders Company, Philadelphia. 1,081 pages, 79 figures. Price \$11.50.

This is a comprehensive and up-to-date text covering this extensive field. It attempts to assemble under one cover material which has previously appeared in several separate types of publications. The completeness of the subject material has necessitated brevity in dealing with many of the topics, but this is supplemented by helpful bibliographies at the end of each chapter.

Such chapters as that on congenital heart disease, which summarizes in easily available form pertinent



## Better start doing this to part of your money

**YOU KNOW** how money is!

Today it's in your hand, and the next day it *isn't!*

A lot of people, however, have found an excellent way to make certain they will have money when they need it most.

**They *salt away* part** of their pay each week in U. S. Savings Bonds through the Payroll Savings Plan where they work.

They know that saving this way assures them of the money for a down payment on a new home... a new car... or retirement when the time comes.

Furthermore, in ten years they get back \$4 for every \$3 invested in U. S. Savings Bonds.

**Why don't YOU start** saving money *regularly* and *automatically* where you work, or at your bank through the Bond-A-Month Plan?

**Automatic saving is  
sure saving —  
U.S. Savings Bonds**

Contributed by  
**CAPPER PRINTING CO., Inc.**  
912 Kansas Avenue  
TOPEKA, KANSAS





clinical and recently developed laboratory aspects of the most important forms of congenital cardiac defects, should be helpful to the busy clinician. The first section of 10 chapters devoted to the pathologic physiology of the cardiovascular system as it relates both to pathogenesis and treatment of congestive failure and shock is particularly recommended. The last several chapters considering cardiovascular disease from the standpoint of surgical risk, obstetrical risk, insurance and medical legal problems have direct practical application and are a helpful addition to this type of text.—*W.L.C.*

\* \* \*

*The Physiology of Thought.* By Harold Bailey, M.D. Published by William-Frederick Press, Inc., New York. 313 pages. Price \$3.75.

The author appears to the reviewer to be attempting a logical synthesis. It seems clear that the validity of such an approach must depend on the soundness of the underlying facts and the way they are used. Because of the fact that the underlying facts which are being "reasoned about" are often abstract and categorical entities, there is much opportunity for semantic confusion.

I quote, "Thinking is not difficult; the difficulty arises when we attempt to stop. Some psychologists hold the view that it is possible to refrain from thinking, but we cannot concur in such an opinion. Even though we did refrain from thinking we would not know it unless we thought about it at the time; in which case we would continue to think. Knowledge is dependent on thought and knowledge of the fact that we were not thinking would also require some thought."

It should also be pointed out the title uses the word "thought," itself a substantive. This seems representative of the author's approach. There is a great deal of erudition evident in this work, and those whose interest is intellectual will find it enjoyable.—*M.J.*

\* \* \*

*Human Growth.* By Lester F. Beck. Published by Harcourt, Brace and Company, New York. 124 pages, 41 illustrations. Price \$2.00.

This book is for the young teen-ager who needs to be informed about sex. It is simply written and presents admirably all the salient facts. This book is a book that parents and physicians can hand to adolescents with the knowledge that it was tested out on thousands of youths and parents before it was released to the public. Great thought has gone into its preparation.—*H.C.M.*

\* \* \*

*For the New Mother.* By Mildred V. Hardcastle, R.N. Published by John C. Winston Company, Philadelphia. 159 pages. Price \$2.00.

This attractively written little book will prove to be particularly helpful to the young new mother with her first baby. Its purpose is to eliminate many of the cares and scares arising during baby's first year—and to make it a happy one.

This is an up-to-date handbook written simply and completely as a supplement to the pediatrician's advice. How to care for baby, what to expect of him, what to do in an emergency—all are included—plus suggestions for the new mother to aid her in keeping fit, calm, and cheerful during those first difficult months.

Certainly this book affords a good answer to the new mother's problem.—*T.W.C.*

---

## ABSTRACTS FROM CURRENT LITERATURE

---

### Sydenham's Chorea

*Two Factors in the Differentiation of Rheumatic and Non-Rheumatic Types of Sydenham's Chorea.* By R. L. Sherman and Howard I. Kaiser, *Arch. Ped.*, 66:4, 173-183, April 1949.

This is usually a disorder of childhood, characterized by irregular, spasmodic, involuntary movements of the limbs or facial muscles.

The authors diagnosed active rheumatic fever by polyarthritis, diastolic murmurs, positive x-ray or EKG findings, and fever. Of these, fever associated with either polyarthritis or diastolic murmur was considered sufficient in itself, the other factors being used as corroborative evidence. A past history of rheumatic fever, x-ray finding of a heart with mitral valve lesion or EKG findings showing persistently prolonged P-R intervals were considered adequate for the diagnosis of rheumatic fever.

Authors' summary: (1) 97 cases of Sydenham's chorea were reviewed. (2) 47.3 per cent of the series was associated with rheumatic complications. (3) The sedimentation rate was elevated in 48.5 per cent of the series. (4) 65.9 per cent of those cases with elevated sedimentation rates had rheumatic complications. (5) 30 per cent of those cases with normal sedimentation rates had rheumatic complications. (6) Psychogenic disturbances were noted in 30.9 per cent of the series. (Five followed severe fright, a man entering through fire escape, near escape from auto accident, dog jumping on face, a thunder storm, and being lost. One followed demotion at school, another admitted utilizing attacks as a method of avoiding school.) (7) 15.2 per cent of the rheumatic choreas had psychic complications. (8) 45.1 per cent of the non-rheumatic choreas had psychic complications.

**POSTGRADUATE COURSE IN GENERAL SURGERY**  
**FEBRUARY 27, 28 AND MARCH 1, 1950**  
**UNIVERSITY OF KANSAS MEDICAL CENTER, KANSAS CITY**

**FACULTY**

**Guest Instructors:**

TRUMAN G. BLOCKER, M.D., Professor of Maxillo-facial and Plastic Surgery, University of Texas School of Medicine, Galveston.

J. MATTHEW FARRIS, M.D., Moore-White Clinic, Los Angeles.

EMILE F. HOLMAN, M.D., Professor of Surgery, Stanford University Hospital, San Francisco.

WILLIAM WALLACE SCOTT, M.D., Professor of Urology, Brady Urological Institute, Johns Hopkins Hospital, Baltimore.

**University of Kansas Faculty:**

STANLEY R. FRIESEN, M.D., Assistant Professor of Surgery.

CLARKE L. HENRY, M.D., Resident in Surgery.

C. FREDERICK KITTLE, M.D., Resident in Surgery.

GEORGE O. MILES, M.D., Associate in Surgery.

ANDREW D. MITCHELL, M.D., Instructor in Surgery (Urology).

THOMAS G. ORR, SR., M.D., Professor of Surgery.

DAVID W. ROBINSON, M.D., Assistant Professor of Surgery and Oncology.

PAUL W. SCHAFER, M.D., Professor of Surgery and Oncology.

WILLIAM L. VALK, M.D., Clinical Professor of Surgery (Urology).

WILLIAM P. WILLIAMSON, M.D., Associate in Surgery (Neurosurgery).

**SUBJECTS TO BE DISCUSSED**

8:00 to 12:00 each day—Operations in the New Surgery Suite with Television of Selected Cases

Surgical Problems in the Dynamics of Blood Flow  
 Observations on Acute Pancreatitis

Management of Head Injuries

The Surgical Treatment of Constrictive Pericarditis

Clinical Significance of Alterations in Blood Potassium

Treatment of Cancer of the Face, Mouth and Jaws  
 The Importance of Hematuria

Selection of Operation for Carcinoma of the Rectum

The Management of Bronchiectasis

Prostatic Cancer: Diagnosis, Surgical and Endocrine Management

Fluid and Electrolyte Balance in Infants

Vagus Resection for Peptic Ulcer

Management of Acute Hand Injuries

The Radical Operation for Breast Carcinoma

Transverse Abdominal Incisions

Present Status of the Treatment of Burns

Management of Renal Tuberculosis

Treatment of Tumors of the Bladder

5:00 p.m. Tuesday—Forum on Surgical Problems in Kansas



## *Woodcroft Hospital—Pueblo, Colorado*

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



### Conclusions:

1. Chorea may be either rheumatic or non-rheumatic.
2. Elevated erythrocyte sedimentation rates are more frequently encountered in rheumatic than non-rheumatic chorea.
3. Psychogenic complications are more frequently encountered in the non-rheumatic than in rheumatic chorea.
4. Psychogenic complications occur frequently enough to be considered as one of the etiological factors in the production of Sydenham's chorea.
5. Erythrocyte sedimentation rate determination as well as psychogenic factors may be of aid in the differentiation of rheumatic and non-rheumatic chorea, but their value is limited.—D.R.D.

\* \* \*

### Fibrosis of the Pancreas

*Fibrosis of the Pancreas in Infants and Children.*  
By Charles D. May and Charles Upton Lowe, *Jnl. Ped.*, 34:6, 663-687, June 1949.

The authors believe that the term cystic fibrosis of the pancreas is misleading because: (1) it focuses attention on one aspect, perhaps the least vital, of the disease, no hint being made of the constant lesion in the lungs although this appears to be the most important factor in determining the clinical course of the disease and the fate of the victim, (2) the variability of symptoms is not generally appreciated, (3) this terminology has served to over-emphasize the nutritional problem and role of diet in treatment in the disease.

**Meconium Ileus**—This is the least complicated exhibition of the underlying process. Meconium ileus is a disease of full-term infants. Meconium sufficiently inspissated to obstruct the intestine would seem to be a sign that the pancreatic lesion is so advanced that no appreciable pancreatic secretion reaches the intestine. Only 29 of 134 cases with fibrosis of the pancreas developed meconium ileus. All infants suffering from ileus or unusual difficulty in passing meconium ought to be suspected of fibrosis of the pancreas. Rarely a child will turn out to have congenital atresia of the pancreatic duct or other pathology of the pancreas without developing pulmonary lesions.

Other infants with fibrosis of the pancreas develop symptoms of pancreatic insufficiency soon after birth. One-third have abnormal stools from birth. Many fail to gain weight in the first few weeks of life in spite of abundant intake of food and inconspicuous pulmonary symptoms. No return of the pancreatic dysfunction occurs once it has been destroyed. These patients usually have a ravenous appetite. This leads to excellent or increased intake of food and compensates more or less for the inefficient

digestion. If there is no extra burden to carry such as infection or severe pulmonary lesions, normal nutrition is frequently maintained.

The amount of feces is increased in bulk and weight. Impairment of digestion can not but lead to increased fecal excretion. If the output of the feces for the entire day is seen, or the increased number of the formed stools noted, it would be evident that the total fecal excretion is always greater than normal. Beyond the first year of life the stools are frequently fatty and pale as well as bulky, mushy and foul.

The pulmonary lesion has its origin very early in the course of the disease. Even as early as the first few weeks. Only three cases from the series presented showed no peribronchial infiltration. Clinical signs and symptoms include wheezing, dyspnea, cough, the production of sputum composed of tenacious, mucoid substance or a thick, mucopurulent material, cyanosis sometimes associated with clubbing of fingers and toes, fever, and deformity of the chest. Cough is usually a prominent symptom before 6 months of age and frequently dates from birth.

After many months of severe dyspnea and cyanosis, accompanied by marked emphysema and widespread lobular atelectasis, the heart becomes enlarged. This may occur within a few days. At first the cardiac enlargement is due to dilation and later to hypertrophy. Signs of congestive failure may appear.

The physician should be wary of subtracting items of food from the diet on the basis of "suspected intolerance". One is more likely to interfere with the natural compensation of increased intake by withdrawing food for which the patient is eager. Attention had better be directed to the provision of a complete, well balanced diet in amounts calculated to satisfy the appetite. One should not become guilty of treating the stools rather than the child.—D.R.D.

### Infectious Mononucleosis

*Liver Function during Infectious Mononucleosis.*  
By J. W. Brown, John L. Sims, Edward White and Jack E. Clifford, *Am. Jnl. Med.*, 321-328, March 1949.

The results of liver function tests were observed in 83 cases of infectious mononucleosis between the ages of 17 and 34 years. Diagnoses were based on clinical features, increased lymphocyte percentage, or a rise in heterophile antibodies to a titer of 1:128 or higher. Only 19 did not demonstrate such titer.

Cephalin cholesterol flocculation test was abnormal (3+ or more in 24 hours) in 85 per cent of the cases. The average duration of a strongly

REAGENT CHEMICALS

THERMOMETERS

PIPETTES

HYDROMETERS

LATEX, RUBBER, TYGON, KOROSEAL,  
SOFT and PYREX GLASS TUBING

LABORATORY GLASSWARE and SUPPLIES

KLINE TEST ANTIGEN (LaMotte)

CARDIOLIPIN—LECITHIN

KOROSEAL and AMERIPOL APRONS

LABORATORY EQUIPMENT

**Southwest Scientific Corporation**

122 S. St. Francis

Wichita 2, Kansas



**COSSARD**  
FRONT LACING  
**CORSETS**  
*A complete line of  
sizes and types.  
Expert Fitters*  
**THE W. E. ISLE COMPANY**  
1121 GRAND • KANSAS CITY, MO.  
ENTIRE SECOND FLOOR VICTOR 2350

**OUR 35th YEAR**

AN  
INSTITUTION  
OF STRENGTH  
AND CHARACTER

You modernize constantly the equipment in your office to keep abreast of the times. You have an opportunity to modernize your Collection Department through Midland Service, based on facts—not opinions. It is available to you upon request, and with it goes the assurance it will prove highly profitable to you.

**MIDLAND***Finance Corporation*

20 W. 9th St. Bldg.

Kansas City, Mo.

**THE TROWBRIDGE TRAINING SCHOOL**

Established 1917

A HOME SCHOOL for NERVOUS and BACKWARD CHILDREN

**The Best in the West**

Beautiful Buildings and Spacious Grounds. Equipment Unexcelled. Experienced Teachers. Personal Supervision given each Pupil. Resident Physician. Enrollment Limited. Endorsed by Physicians and Educators. Pamphlet upon Request.

1850 Bryant Building

E. HAYDEN TROWBRIDGE, M.D.

Kansas City, Mo.

Nationally advertised Surgical Supplies and Equipment have been placed at Topeka, Joplin, Kansas City and St. Joseph for your convenience by —

**GOETZE NIEMER CO.**

Management by Dr. W. F. Goetze, a member of the American Medical Association, assures intelligent servicing of your orders.



positive test from the estimated onset of the disease was 30 days.

The thymol turbidity test (used in 77 cases) was positive, on an average, later in the course of the disease than the cephalin cholesterol flocculation. Four units or more were demonstrated in 65 per cent of cases.

The icterus index was 10 units or more in 38 per cent of the cases in which it was made. This usually occurred during the early acute phase of the disease. Abnormal amounts of urobilinogen appeared in the urine in 34 per cent of the cases tested. Prothrombin time was below 75 per cent in five of 39 patients tested.

The bromsulfalein test was abnormal in 49 per cent of cases in which the test dose was five mg. per kg. body weight.

Of the series of tests used, the cephalin cholesterol flocculation was positive most frequently. There is no evidence from studies here that chronic liver insufficiency might subsequently develop.

Infectious mononucleosis is protean in its manifestations, and diagnosis is often difficult. It is noted that the cephalin cholesterol flocculation test becomes positive in the first few days of the disease in most cases; this may be of diagnostic value, since the heterophile agglutination does not usually become positive until after the first week and may never become positive. For this and other reasons, however, it may occasionally be impossible to distinguish between infectious mononucleosis and infectious hepatitis, with or without jaundice.—E.J.R.

\* \* \*

### Repairing Omphalocele

*New and Simplified Procedure for Repairing Omphalocele.* By Howard M. Kern, *Am. Jnl. Surg.*, 77:6, 783-787, June, 1949.

The incidence of this congenital umbilical hernia is said to be one in 5,000 to 6,000 deliveries. It is frequently associated with other anomalies of development. Twenty-four hours after birth the sac becomes dry and friable, rupture occurs and then evisceration and peritonitis result in death.

Two methods of repair have been previously employed. A one-stage operation excising the sac and doing a layer closure is fraught with mechanical difficulty because of the disproportion between the abdominal cavity and its contents, and contamination too often leads to peritonitis. A two-stage procedure closes the skin and at a later date repair of the hernia is done. The mortality has been high in this operation as well.

The author cites a case and describes a technic wherein the skin is incised circumferentially about the omphalocele and the ring of skin remaining on the sac approximated longitudinally, infolding

(without opening) the sac. The abdominal skin is undermined and the external rectus sheaths approximated, and then the skin. They suggest that the cord be tied with heavy catgut, and that the medial margins of the rectus sheaths incised so as to permit approximation of cut edges.—T.P.B

### Length of Life Increases

The average length of life of the people in the United States is nearly two years above the level reached in the three years just before the war, according to figures compiled by the National Office of Vital Statistics, based on 1947 death rates. White women, on the average, live longer than any other single group, leading white men by more than five years.

The average for the total population of this country in 1947 was 66.8, the non-white population having a lower but steadily increasing life expectancy. White women at birth average a life expectancy of 70.6 years, non-white women 61.9, white men, 65.2, and non-white men 57.9.

Hives due to allergic reaction to sunlight is a rare condition. Dr. Stephen Epstein of Marshfield, Wisconsin, however, reports two cases in the July-August issue of the *Annals of Allergy*. He reported also that the condition may be transferred by injecting some of the patient's blood serum into the skin of a normal individual. Dr. Epstein found that the newer anti-allergy drugs help some and urged that contributing factors, notably pressure, be controlled while the patient is under treatment. He stated that ordinary protective creams which are effective against sunburn are not effective in this instance because they do not protect against the longer ultraviolet rays.

## ANNOUNCEMENTS

February 20-21—Tenth Annual Congress on Industrial Health, Roosevelt Hotel, New York City.

February 20-23—Scientific Assembly, American Academy of General Practice, Kiel Auditorium, St. Louis, Missouri. Reservations Accepted to January 16. Address Hotels Reservation Bureau, A.A.G.P., 1420 Syndicate Trust Building, St. Louis 1, Missouri.

March 9-11—Scientific Session, American Goiter Association, Shamrock Hotel, Houston, Texas.

March 26-30—Pan-American Association of Ophthalmology, Miami Beach, Florida. Conference of National Society for Prevention of Blindness in Conjunction. Headquarters at Floridian Hotel, Miami Beach.

April 3-8—Postgraduate Assembly on Endocrinology and Diabetes, Roney Plaza Hotel, Miami Beach, Florida. Sponsored by American Diabetes Association and Association for Study of Internal Secretions.

May 14-19—International and Fourth American Congress on Obstetrics and Gynecology, New York, New York.

MAY 15-18—91st ANNUAL SESSION, KANSAS MEDICAL SOCIETY, WICHITA, KANSAS.

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LJ

MARCH, 1950

No. 3

## **Greetings from Franklin D. Murphy, M.D., Dean, University of Kansas School of Medicine**

Again the School of Medicine of the University of Kansas is indebted to the Kansas Medical Society and its Journal for the privilege of developing the annual medical school number. This issue is symbolic of the continuing strong bonds that tie the interests of the school to those of the medical society. The fact that there has been forged a close relationship between school and profession is a source of the greatest satisfaction to the university. The support given the administration of the school by the officers and council of the state society has been one of the major factors in making the continuing development of the school an exhilarating experience.

The School of Medicine bears the two major responsibilities of education and research. It is our avowed goal to expand the quantity and quality of both the undergraduate and postgraduate instruction, not only in medicine but also in the many ancillary fields such as nursing, physical medicine, laboratory technology, occupational therapy, hospital dietetics, etc. Educational programs are being modified as time, experience, and local needs dictate. A curriculum is not cast in concrete but should be a living, pliable thing, requiring as much experimental study as disease itself. As socio-economic as well as disease patterns change, so must educational techniques and directions also be modified, else they wither and become sterile.

No institution of higher learning, least of all a medical school, can hope to develop and maintain that academic ferment and buoyancy which characterize a great institution without well developed programs of research. Medical investigation is not incompatible with medical teaching. In fact the one complements the other. The best physician is the most inquisitive physician and this attitude is more easily developed in a medical environment where research is the rule rather than the exception. The medical school has fully recognized this obligation and this past year has seen substantial expansion of already existing investigative programs as well as the development of new research efforts in other directions. We are convinced that the people of Kansas are as interested in projects designed to explore the diseases of man as they are in the necessarily important researches into the cause and cure of diseases of domestic animals and grains, and we propose to bring this picture into proper balance by increasing our efforts at the medical school.

The actual as well as the proposed expansion of

activities in both education and research brings increased demands on our faculty, and we are presently working toward a plan whereby those faculty members most concerned with these programs are able to devote more of their energies and skills to these efforts without undue sacrifice. Such a plan is essential if we are to realize our goals, and this is a fact that almost every medical school in the nation has realized by now. The combination of adequate financing, proper facilities, and a skilled faculty, many of whom will devote most or all of their energies to the school, represents the only mechanism whereby we can realize our potentialities with a distinction which will inevitably reflect credit on the medical profession and the people of our state.

Perhaps the most significant development in Kansas medicine in the past year has been the concerted effort by all concerned with health in our state to attack some of those problems in medical care which have been recognized by physician and layman alike. Kansas has a long tradition of sensible progressivism in the sense that when problems arose they were faced and solved by practical, honest action and with the knowledge that the privileges of democracy carry with them certain responsibilities in the public interest. Our Kansas forebearers also appeared to realize that if they defaulted on their responsibilities, they would lose their individual as well as group privileges. Therefore, it has been in the best Kansas tradition that the Kansas Medical Society through its council and its officers has taken the lead in demonstrating by positive action that the medical profession in Kansas recognizes its responsibilities. The successful efforts of the Society on behalf of the medical school will soon be translated into more and better physicians for the people of our state. The unremitting backing and participation in the postgraduate programs can mean only better medical care in Kansas. Local communities have been awakened to their responsibilities. Through these and other efforts, the Kansas Medical Society is proving not only to the state but to the nation that the sense of local responsibility and action is not dead. The School of Medicine feels privileged to have participated in this plan of positive action under the tireless and vigorous leadership of the president of the Society, Dr. Hadson Peck. We look forward with zest and pleasure to a continuation of this fruitful and effective relationship.



# Penicillin Treatment of Cardiovascular Syphilis\*

Lloyd H. Coale, M.D., Max S. Allen, M.D., and Mahlon H. Delp, M.D.

Kansas City, Kansas

With the discovery and announcement by Mahoney in 1943, that penicillin is a potent agent against the spirochete of syphilis, a new era of syphilotherapy was ushered in. From then until now extensive study has been in progress pointed toward finding proper time-dosage schedules, particular indications, contraindications, and dangers in the treatment of syphilis. It seems apparent that these problems are especially great as they relate to the serious forms of late syphilis, and that in this respect the solution remains incomplete.

Our first objective in this study was to critically evaluate the effect of penicillin in the treatment of cardiovascular syphilis. This is, of course, an ambitious venture, the final outcome dependent upon a long period of clinical observations and eventual study of postmortem material in comparison with non treated and inadequately treated case material. Logically results should also be studied in parallel with those from cases treated with other anti-syphilitic agents. We next wished to verify or dispel from our own minds the theoretically propounded fears regarding the use of penicillin in cardiovascular syphilis. Finally we wished to test the most practical form of rapid treatment for an out-patient service utilizing an already proven spirochetocidal agent, exploring dosage, speed of treatment, and economy of treatment; and most important of all to find a schedule of therapy which would encourage the least absenteeism from treatment by the patients.

In considering any new therapy, it is well to clarify the features of the disease against which it is directed. We have, therefore, thought it worthwhile to present a brief review of observations in the recent literature on cardiovascular syphilis, as a part of this report.

## Pathology

- I. Aorta invaded by spirochetes before or during secondary stage.
  - A. Lymphatics involved.
  - B. Vasa Varorum involved—endarteritis.
- II. Tissue changes.
  - A. Destruction of muscle and elastic fibers of media.
    1. Weakening and dilatation of wall (aneurysm).
    2. Widening of aortic valve commissures (aortic insufficiency).

- B. Fibrosis with irregular thickening of intima (plaques).

1. Encroachment upon the coronary ostia (coronary insufficiency).
2. Thickening and contracture of the aortic valve cusps (aortic insufficiency).

## III. Miscellaneous changes.

- A. Gumma of the myocardium.
  1. Heart block and other arrhythmias resulting.
- B. Syphilitic myocarditis.
- C. Increased myocardial susceptibility?<sup>1</sup>
  1. Miscellaneous infections involving myocardium.
  2. Atherosclerosis.

## General Problems and Incidence

Pathological evidence of aortic involvement can be found in 80 to 90 per cent of inadequately treated syphilis of 10 years or greater duration.<sup>2</sup> While there is an average of 20 years elapsing between appearance of a primary lesion and of symptoms these features may be separated by no more than three to six months in occasional instances recorded. Approximately 10 per cent of syphilitics develop clinical evidence of aortic disease if not treated in the early stage.<sup>3</sup> These constitute 10 to 15 per cent of all cases of cardiovascular disease recognized clinically, and comprise 13 to 15 per cent of all cardiovascular lesions found at autopsy.<sup>5</sup> Cardiovascular syphilis is responsible for more adult deaths than is neurosyphilis.<sup>4</sup> Males dominate in most series. Woodruff reports 93 per cent males in his series.<sup>5</sup> Cardiovascular syphilis is largely a disease of late middle life. The majority are said to show symptoms and die after the age of 50 years.

## Clinical Course and Prognosis

Syphilitic heart disease may first manifest itself by sudden death, or symptoms may be present for many years. The extreme variability of its course makes evaluation of treatments hazardous, except in large series of cases. Factors influencing prognosis warrant examination. The more important items are listed. (a) Physical exertion related to the patient's economic status. Obviously the patient required to engage in strenuous physical endeavor incurs further and more rapid damage. (b) The complications of hypertension and arteriosclerosis, of which there is a high coincidence. (c) Variables as represented by signs of the disease. Widening of the ascending aorta was said by Reader to have no especially ominous significance.<sup>6</sup> We have observed

\*From the Department of Internal Medicine, University of Kansas School of Medicine.

one female with an aneurysm of the ascending aorta, verified by x-ray, for 15 years. This patient has had auscultatory findings of aortic insufficiency for seven years. She is still symptom free. Still more remarkable is the fact that she has gone through two pregnancies in this period. (d) Treatment is a factor of much more importance when given early.

Estimates of life expectancy after the diagnosis or onset of symptoms have varied. Woodruff<sup>5</sup> found that 66 per cent of his patients were dead within two years after symptoms began. Moore's figures for untreated cases were: aortitis, average of 10 years; regurgitation, up to three years; aneurysm, up to two years. In a series of patients with aortic insufficiency reported upon by Reader and coworkers<sup>6</sup> in 1947, the prognosis was much more favorable. Most of their cases were over 60 years old and able to avoid heavy labor. In those given intensive bismuth and arsenic treatment as well as adequate supportive treatment for complications, the asymptomatic phase lasted two to 10 (average six) years, and the symptomatic phase ran two to 14 (average 5.6) years.

#### Diagnosis

*Aortitis:* Maynard,<sup>7</sup> Gross and Wallerstein,<sup>8</sup> and Woodruff<sup>5</sup> have all recently concluded that uncomplicated aortitis is a symptomless disease, and have re-evaluated the criteria formerly set up for its diagnosis. Physical signs usually mentioned are increased retromanubrial dullness, episternal pulsation, aortic systolic murmur and accentuated aortic second sound. The first is a relatively late finding; the others are significant only if the patient is under 40 years of age, without hypertension or arteriosclerosis. Radiographic signs usually mentioned are as follows: (a) Widening of the aorta, most significant in the ascending portion, less so elsewhere if the patient is over 40 or hypertension is present. From examination of 30,000 Army and Navy recruits, Schwedel, as quoted by Gross and Wallerstein, found that five per cent of healthy men between the ages of 17 and 37 years had some aortic dilatation. (b) Calcification in the ascending aorta is significant, especially if linear in distribution, such being only occasionally found in the absence of syphilis.<sup>9</sup> Increased aortic density is of similar import. (c) The types of pulsation is thought characteristic by Griffith,<sup>10</sup> being a quick exaggerated expansion with a lazy recoil, unlike that found in other conditions. (d) Angiocardiography has recently been stated to be the final criterion of diagnosis in many doubtful cases.<sup>3</sup>

*Aortic insufficiency:* Symptoms were denied at the time of diagnosis by one-half of the cases studied by McDermott, as quoted by Moore.<sup>2</sup> Twenty-eight

of these asymptomatic patients were followed two years or more, and only two died of heart disease. Two others developed symptoms. When symptoms do supervene, dyspnea and later other manifestations of the heart failure are classical. It has been recently emphasized that syphilitic cardiacs in failure respond to the administration of digitalis and diuretics about as well as do other cardiacs, contrary to older opinion.<sup>3</sup> Anginal pain may arise on the basis of ostial stenosis or relative myocardial ischemia in marked hypertrophy of the heart. Sixteen of 54 patients studied before and after death by Gross and Wallerstein had chest pain.<sup>8</sup> In only seven was it clearly due to aortitis; four had ostial stenosis. Reader<sup>3</sup> feels that pain in cardiovascular syphilis is likely caused by ostial stenosis only when aortic insufficiency is also present.

*Physical findings:* Chief among these is the aortic diastolic murmur, which is easily missed if not listened for correctly. It is transitory in early cases. The murmur is occasionally heard in severe hypertension, arteriosclerosis or anemia, but these are not often diagnostically important. When caused by rheumatic disease the murmur is usually associated with signs of mitral valvulitis, and it is first heard at a younger age. The Austin Flint murmur may be indistinguishable from that of mitral stenosis, even to the thrill. Differential points offered are (a) the usual absence of a loud sharp pulmonic second sound in syphilis, and (b) heart contour on percussion and fluoroscopy—boot shaped in syphilis, prominent conus in mitral stenosis. The Austin Flint murmur was noted in 46 per cent of cases where the murmur of aortic insufficiency was recorded, in the series studied by Woodruff.<sup>5</sup> Aortic insufficiency in healed bacterial endocarditis may be a fairly common entity in years to come. Occasional instances of bacterial endocarditis superimposed upon a luetic valve have been recorded. Rheumatism and syphilitic aortic insufficiency found at autopsy have been reported.<sup>5</sup>

*Blood pressure:* Gross and Wallerstein<sup>8</sup> found normal or elevated diastolic pressure in four of 54 proven cases studied. Twenty-four of varying severity had systolic hypertension (over 150 mm. Hg.), 11 had a diastolic pressure over 100 mm. Hg. Of the latter, eight had no clinical evidence of aortic insufficiency. The diagnosis was established at autopsy.

*X-ray findings:* A dilated ascending aorta may be seen, if saccular, it is said to be pathognomonic of syphilis.

*Aneurysm:* The symptoms of hoarseness, cough, pain, etc. are well known, but are often absent. Some symptoms may subside if periaortitis is resolved by treatment.



Physical signs: Retrosternal abnormal pulsations, distended veins, inequality of the radial pulse, and unequal pupils are features requiring differentiation from all other intrathoracic disease states.

Radiographic findings are those of a mass which may be seen to pulsate. Pulsation is often absent in the saccular type of aortic dilatation, being prevented by thrombosis or periaortitis.<sup>9</sup> Small aneurysms unusually located are easily missed. Of 20 autopsied cases in one series, only 12 had been clinically detected.<sup>8</sup>

Miscellaneous diagnostic factors: History of a primary lesion is of considerable confirmatory value. Approximately one-third of Woodruff's cases had evidence of neurosyphilis. This was found in 19 of 41 of our cases upon whom spinal punctures were done.

#### Treatment

A number of studies have shown that adequate treatment of early syphilis is almost completely effective in preventing cardiovascular involvement.<sup>7, 11, 12</sup> Adequate treatment of established cardiovascular syphilis with arsenic and heavy metals has also been shown to improve the prognosis statistically. Figures from the Cooperative Clinic Study<sup>10</sup> report indicate that in untreated or inadequately treated patients survival times are as follows: aortitis ten years; aortic regurgitation up to three years, aneurysm up to two years. Adequate treatment increased these to: aortitis 10 to 20 years; regurgitation four and one-half years, and in aneurysm from three to six years.

There have been only three reported autopsy studies in which a comparison was made between cases adequately treated and cases having little or no treatment. One such study showed no difference. Two more recent series showed definite benefit from adequate treatment. Webster and Reader<sup>13</sup> studied a group of 19 cases adequately treated (20 arsenical and 20 bismuth injections or more). Of this group only three showed active inflammation in the aorta, while this was present in all of 19 cases with little or no treatment.

Material available in the pathology museum of the University of Kansas Medical Center uniformly shows perivascular round cell reaction in the aorta of all aortic syphilitic cases. This is true in both treated and untreated cases. It must, of course, be stated that in no case was treatment known to be adequate by present standards.

*Treatment with penicillin:* After coming into clinical usage penicillin was quickly proved to be a potent spirochetocidal agent, comparable to arsenicals. It was found at the same time to have the property of producing the Herxheimer reaction, in

early and late syphilis. In neurosyphilis, the symptoms of this therapeutic shock were sometimes alarming. Initiation of treatment with small graduated doses was suggested, but has not prevented the fever and other phenomena of the Herxheimer reaction. It seems to occur when the concentration of penicillin reaches a therapeutic level in the body, coming on in a matter of a few hours thereafter. Theories of the underlying mechanism will not be discussed; suffice it to say that tissue changes appearing in syphilitic lesions apparently include edema and transient activation of the inflammatory process.

It has been feared this might allow disruption of a vital tissue under stress, as in the aorta, or produce harmful pressure effects from the edema, as around a coronary ostium. Arsenicals were long ago found capable of producing rapid healing and scar formation in syphilitic lesions where spirochetes were numerous. This gave rise to the idea that this series of events occurring in such vital structures as the aortic valve or coronary ostia might embarrass their functions. Such a theoretical untoward deviation has been called a "therapeutic paradox." With the feeling that the organism could adjust better to the changes of healing if they were made to take place more slowly (at least the undesirable sequelae would not evolve so dramatically), cautious preliminary treatment with heavy metals has been commonly practiced. It is difficult to dispute this on theoretic grounds.

When penicillin was found to be spirochetocidal, the concept of the therapeutic paradox was logically applied to it, in the absence of any known reason to the contrary. As recently as March, 1948, one could find recommendations such as that given by the Syphilis Study Section of the National Institute of Health,<sup>14</sup> that in syphilitic aortitis with aortic regurgitation, saccular aneurysm or obvious or masked coronary or myocardial disease, it might be advisable to withhold penicillin altogether, or at least till after preparatory treatment with heavy metals had been given. However, when penicillin became so widely used for all kinds of infections as well as early syphilis, it was inevitable that a number of cardiovascular syphilitics would be subjected to it, inadvertently or otherwise.

There have been a few scattered reports of suspected unfavorable reactions to penicillin by these patients; however, they are all largely circumstantial in nature, and subject to explanation by mere coincidence. In 1945, Dolkart and Schwemlein<sup>15</sup> reported two cases of penicillin treated aortitis, one of which had angina at rest on the third day of treatment and frequent ventricular premature beats on the fifth day. When treatment was stopped, the un-

toward symptoms subsided in two days. The second case had precordial pain appearing on the fourth day of penicillin therapy. The pain stopped one day later as treatment was discontinued. However, both cases previously had angina, and the second had severe lingual tonsillitis with an apparent bronchial infection at the time.

Scott and co-workers in January, 1949,<sup>16</sup> reported a ruptured aneurysm occurring 49 hours after starting penicillin therapy. The autopsy showed necrosis of the aortic wall where it was adherent to the esophagus. This patient also had meningococcal meningitis. The authors admit that the catastrophe and the penicillin treatment may have been purely coincidental. Callaway<sup>17</sup> reported a patient thought to have suffered a rupture of an aortic cusp 10 days after completion of penicillin therapy. Moore observed a patient with aortitis and paresis who died, apparently of congestive failure, after four days of penicillin and malaria treatment. At autopsy numerous aortic plaques with fresh hemorrhages in them were noted.

Kossman and Flaum<sup>19</sup> in 1948, reported upon penicillin treatment of 49 cardiovascular syphilitics. One patient had recurrent attacks of precordial pain during treatment. It is to be noted, however, that the patient was in congestive failure and complained of angina before treatment. Another had paroxysmal dyspnea during therapy, but had also been in congestive failure just prior to treatment. None of the remaining 47 patients had anything to suggest a treatment reaction. Eleven had had no previous treatment. Russek and others<sup>20</sup> in 1946, gave penicillin to 15 syphilitics with aortitis. One had mild chest pain for a few hours on the third day, subsiding on continued treatment. This patient as well as three others seemed to have improved coronary reserve after treatment.

In 1947, Tucker and Farmer<sup>21</sup> reported on the use of penicillin in 34 cases of syphilitic aortitis. Eleven of these had cardiac symptoms. Some had previously had heavy metals, but not within three months. All but six were started on full doses of penicillin. Five had temperature elevations within 16 hours. All of these had abnormal spinal fluid. Ten who were followed with daily electrocardiographic tracings showed no significant changes in the curves. There were no untoward cardiovascular reactions.

Edeiken and co-workers<sup>22</sup> at the University of Pennsylvania have recently reported on penicillin treatment of 50 cases of cardiovascular syphilis. Most of their cases had had no treatment for several years. In none was it necessary to stop treatment. No relation was found between the initial dose and occurrence of febrile reactions. Six pa-

tients were treated while in congestive failure with no untoward effect. There were no evidences of therapeutic paradox. A few cases showed minor T wave changes in the electrocardiogram during treatment. These were usually transient, and difficult to interpret either as to treatment reaction or benefit. In 1949 Reader<sup>3</sup> stated that he and most other syphilologists were now beginning treatment with full doses of penicillin and ignoring the possibility of reactions in cardiovascular syphilis.

*Penicillin dosage and schedules:* Since penicillin treatment of cardiovascular syphilis has so far been largely investigational, there has been no concerted expression of opinion on dosage schedules. Much more follow-up study will be necessary to establish the optimal amount of treatment. Total dosage in the University of Pennsylvania series<sup>22</sup> ranged from 1.2 to 9.6 million units, given as the aqueous preparation at two to three hour intervals. In presently reported series the popular procedure has been to use aqueous penicillin injections around the clock, but single daily injections of the depot types are now in wide use in treatment centers, for late as well as early syphilis. Serologic responses to the latter seem to be as satisfactory as to the former. Reader and his group at the New York Hospital are now giving a 14-day course of aqueous or procaine penicillin totalling about four million units, followed by 300,000 units of aqueous or procaine penicillin twice weekly for 10 weeks.<sup>3</sup> They base the latter practice on the work of Eagle in experimental syphilis, which indicated that continued levels of penicillin are not necessary for therapeutic results, and on their belief that a short course alone probably does not eradicate the deep seated infection in the aorta. Such a schedule loses the advantage of the single short course in case holding, an important one in handling clinic patients.

#### Report of Penicillin Treated Case Series

*Methods of study:* This report is based upon observations made during the treatment of 70 patients with penicillin at the University of Kansas Medical Center Out Patient Department. Data are taken from the regular clinic and hospital records and from work sheets kept in connection with treatment. Routine study included the following wherever possible. (1) Physical examination before and every two months following treatment for one year, then every three to six months. (2) Quantitative Kolmer and Kahn serologic tests before and after treatment, at the same interval as the physical examination. (3) Chest x-ray and fluoroscopy before treatment. This was repeated later in the majority of previously untreated patients, also in a number of old cases having received heavy metals in the past. (4) Electrocardiograms were taken with the



same regularity as x-rays. A number of previously untreated patients had serial electrocardiograms, including some immediately after their course of treatment. (5) Spinal fluid examinations were made before treatment.

Five of the 70 patients were treated in the hospital with aqueous penicillin in frequent doses. The remainder were treated in the Out Patient Clinic rapid treatment center with penicillin in oil. Prac-

RESULTS. *Previously treated patients* (data are shown in Table I): Forty-seven patients had been treated previously with heavy metals. In the main their treatment had been sketchy and often years in the past. All had positive serology. These groups included 39 with aortitis, seven with aortic insufficiency. Of the latter seven, two had aortic aneurysms. One patient had an aortic aneurysm but no insufficiency. Ages ranged from 31 to 71 years.

TABLE I  
DATA ON PREVIOUSLY TREATED CASES

	No. Cases	Ages	Sex		Race		Ht. Enl.	Elev. B.P.	Ht. Sympt.		Abn. EKG (a)	EKG Chg. (b)	C-V Reac.
			M	F	W	C			Pain	Dysp.			
Aortitis	39	31—											
		71	21	18	7	32	13	16	6	15	10	0	0
Aortic Insuff.	7 (c)	35—	5										
		59		2	1	6	7	5	5	4	6	1 (d)	0
Aneurysm	1	36	0	1	0	1	1	0	0	1	1	?	0
Total	47		26	21	8	39	21	21	11	20	17	1	0

(a) EKG's in 23 cases only.

(b) Follow-up EKG's in six cases only.

(c) Includes two with aortic insufficiency and aneurysm.

(d) Far advanced case, no evidence of treatment reaction.

tically all received a total of six million units, given as one injection of 600,000 units daily for six days, Sunday excepted, then 400,000 units daily for six more days. Four of the hospital patients received between 10 and 15 million units. The hospital patients were started on small graduated doses. All of the out-patients received full doses from the beginning. This included those who had had no previous treatment.

There were 26 males and 21 females. Eight were white, 39 were negro. Twenty-one had hypertension (systolic pressure 150 mm. Hg. or greater, diastolic 100 mm. Hg. or greater). Twenty-one had cardiac enlargement. Eleven had chest pain construed as anginal, and 20 complained of dyspnea at some time before treatment. Electrocardiograms were done in 23 cases, and repeated after treatment in six. Seventeen had abnormal electrocardiograms before treat-

TABLE II  
DATA ON CASES NOT PREVIOUSLY TREATED

	No. Cases	Ages	Sex		Race		Ht. Enl.	Elev. B.P.	Ht. Sympt.		Abn. EKG (a)	EKG Chg. (b)	C-V Reac.
			M	F	W	C			Pain	Dysp.			
Aortitis	9	41—											
		67	1	8	2	7	6	4	2	1	4	2 (c)	1? (d)
Aortic Insuff.	11	35—											
		67	7	4	6	5	8	6	5	10	9	1 (e)	0
Aneurysm	3	42—											
		70	1	2	0	3	3	2	1	3	3	0	0
Totals	23		9	14	8	15	17	12	8	14	16	3	1?

(a) One or more EKG's in 21 cases.

(b) Follow-up EKG's in 14 cases.

(c) Slight lowering of T waves 1½ and four months after treatment.

(d) Mild nocturnal dyspnea (?) two months after treatment.

(e) Far advanced case, no evidence of treatment reaction.

ment. One patient's tracings showed progressive damage after treatment. This was a severe cardiac cripple, diagnosed as having combined rheumatic and syphilitic heart disease. The patient's course had been steadily downhill before treatment. There were no patients who showed clinical evidence of untoward reactions during or after treatment.

Previously untreated patients (data are shown in Table II): Twenty-three patients had received no previous treatment for syphilis. This group included nine with simple aortitis, 11 with aortic insufficiency and three with aneurysm. All but one had positive serology. The exception was an advanced case of free aortic regurgitation difficult to conceive as being produced by any other cause than syphilis. Ages ranged from 35 to 70 years. Nine were males and 14 females, eight white and 15 negro. Twelve patients in this group had hypertension, 17 had cardiac enlargement. Eight patients complained of chest pain, and 14 had experienced dyspnea. Electrocardiograms were obtained on 21 before treatment, and after treatment 14 had one or more tracings made. Sixteen of these tracings revealed abnormalities before treatment.

Following treatment, two patients with aortitis had tracings with mild depression of the T waves. The clinical significance seemed equivocal. One of these patients claimed subjective improvement, the other noted no change. Electrocardiographic evidence of progressive damage four months after treatment was noted in one patient with severe aortic insufficiency. This patient was in failure before treatment, and ran a gradual downhill course later to die five months after treatment. There was no clinical evidence that penicillin affected him adversely. A few other patients with serial tracings

showed transient minor variations in height of T waves and ST segments. These were as often "improved" as "worse" compared with pre-treatment electrocardiograms. There were no changes from upright to inverted T waves or vice versa. Clearly nothing definite could be concluded by following the electrocardiograms.

Clinical observations on the previously untreated patients were as follows (one patient who died later has been mentioned): One patient with aortitis and vague lower sternal aching was relieved following treatment. One 43-year-old colored female with a mild aortitis, a normal electrocardiogram, and no symptoms before treatment, complained of vague nocturnal dyspnea two months after treatment. There were no changes in physical findings. In subsequent visits the patient had no further complaints. One patient with advanced aortic insufficiency and congestive failure prior to treatment evidenced signs of failure on the last day of out-patient treatment. One patient in whom no murmur was heard before treatment was found to have a faint diastolic murmur two months following therapy. No other evidence of unfavorable effects was noted. It was thought likely that the murmur had been previously missed. Five of these patients were treated in the hospital with aqueous penicillin, where temperatures could be taken frequently. Two of the five showed transient mild elevations within 24 hours. Both patients had abnormal spinal fluid findings. Two patients developed mild fever on the fifth and ninth day of treatment, respectively. One patient manifested urticaria and joint pains, clearly a penicillin sensitivity reaction. It was not necessary to stop treatment in any case. One out-patient developed a serum sickness-like reaction on the eighth

TABLE III  
PREVIOUSLY TREATED PATIENTS  
SEROLOGIC FOLLOW-UP

	Totals Fol'd.	Cases c. Fall in Titer	Fol. 6 mo. or more	2+ titer over 6 mo.	Last titer less than Pre-R	
					Less than 6 mo.	More than 6 mo.
I. Cases with fall in titer	27					
A. Not fol. 6 mo.		10			(10)	
B. Fol. 6 mo. or more		17				
1. Only 1 titer			7			(7)
2. Initial fall and sec. rise			10			
a. Net fall				4		(4)
b. Last titer same or higher				6		
3. Steady fall, 2 or more titers				0	0	
II. No chg. or rise in titer	9					
A. Followed 6 mo.			5	(1)		
TOTALS	36	27	22	11	10	11



day of treatment, with no cardiac complications. One patient with an aneurysm of the ascending aorta showed definite congestive failure before treatment. The failure was thought to be more importantly the result of coronary arteriosclerosis. Response to digitalis and diuretics was excellent. Of added interest in this case was clubbing of the fingers of the right hand. Unexpectedly the clubbing decreased after penicillin treatment, but x-ray failed to show change in the aneurysm.

#### Serologic Follow-up

Data accumulated to the present are shown in Table III for previously treated patients and in Table IV for those with no previous treatment. Average follow-up time has been eight to nine months. It is seen that serologic titers show a definite tendency to decline, but this is variable among individuals.

*Effect of neurosyphilis on serologic response:* Forty-one patients had a spinal fluid examination. Of these, 19 had abnormal spinal fluids. Of the 19, 14 were followed six months. Six or 43 per cent had a net serologic improvement, as compared with a 50 per cent net improvement for the over-all six months group. The difference seems insignificant.

#### Discussion

For the patients followed six months or more, it will be seen that the per cent of serologic improvement was the same in those with and without previous treatment (50 per cent). This suggests that the great majority, if not all of the patients previously treated with heavy metals had active infection at the time penicillin was given, confirming the impression of the clinicians who ordered the treatment.

The extent of serologic response which is sus-

tained without relapse may seem disappointingly low up to the present. Whether this indicates that the treatment given was inadequate, or that there is a long period of fluctuating titers before maximum sustained response becomes manifest, remains to be shown. The experience of Stokes and his group<sup>23</sup> with neurosyphilis suggests that the latter is a possibility. In 1948, they reported the blood serologic response found in a three year follow-up on penicillin treated neurosyphilitics. In that study, (averaging the yearly results for three years) 76 per cent remained unimproved or worse in blood titer, while 74 per cent showed striking improvement in the spinal fluid. On the other hand, the ratio of failure to marked improvement in the blood was progressively lowered each year: first year, 4.5 to 1; second year, 3 to 1; and third year, 2.5 to 1. (They recorded anything less than striking improvement in serology as failure; our figures are based on all degrees of improvement). Their results indicate a delayed good effect on the serologic titer.

At present, we feel that further treatment may be indicated in a number of these patients. Until a large number of cases are followed to autopsy such decision will have to be made on extended clinical and serologic follow-up. One should bear in mind that, in cardiovascular syphilis, serologic fastness to any amount of treatment has always been common. Therefore, it need not be considered final evidence against the effectiveness of penicillin.

In gaining cooperation of patients the short course of penicillin has far outdone the older routines. For this reason most of all, it will be our method of choice until a more effective agent is discovered.

#### Summary

1. The general problem of cardiovascular syphilis

TABLE IV  
PATIENTS WITH NO PREVIOUS TREATMENT  
SEROLOGIC FOLLOW-UP

	Totals Fol'd.	Cases c. Fall in Titer	Fol. 6 mo. or more	2+ titer over 6 mo.	Last titer less than Pre-R	
					Less than 6 mo.	More than 6 mo.
I. Cases with fall in titer	11					
A. No. fol. 6 mo.		5			(5)	
B. Fol. 6 mo. or more		6				
1. Initial fall and sec. rise			4			
a. Net fall				2		(2)
b. Last titer same or higher				2		
2. Initial rise but net fall			1	(1)		(1)
3. Sustained fall			1	(1)		(1)
II. No ch. or rise in titer	6					
A. Fol. 6 mo. or more			2	(2)		
TOTALS	17	11	8	8	5	4

and its treatment have been reviewed.

2. Report is made of penicillin treatment in 70 cases of cardiovascular syphilis, 47 previously treated with metals, and 23 with no previous treatment. A preliminary report of serologic follow-up is submitted, covering 36 patients previously treated, of whom 22 were followed six months or more, and 17 patients not previously treated, of whom eight were followed six months or more. Response was essentially the same in the two series.

3. Serologic responses to penicillin in the dosage schedule used by us at present are not striking in the length of time they have been followed. They show a tendency to improve, but also a strong tendency to "relapse." The optimal amount of treatment has not yet been determined.

4. Penicillin treatment of cardiovascular syphilis appears to be a safe procedure, without the necessity of previous preparation with heavy metals or iodides. The theoretic dangers of therapeutic shock and therapeutic paradox are not clinically important enough to warrant delaying its use in any case.

#### References

1. Royster, C. I., Lisa, J. R., and Carroll, J.: Anatomic Findings in the Heart in Combined Hypertension and Syphilis. *Arch. Path.*, 32:64 (July) 1941.
2. Moore, J. E.: Cardiovascular Syphilis. A Summary of Recent Information with Special Reference to Treatment with Penicillin. *Am. J. Syph. Gonorr. & Ven. Dis.*, 33:43 (Jan.) 1949.
3. Conferences on Therapy, Treatment of Cardiovascular Syphilis. *N. York State J. Med.*, 49:306 (Feb. 1) 1949.
4. Blumgart, H. L.: The Detection and Treatment of Cardiovascular Syphilis. *New England J. Med.*, 223:443 (Sept. 19) 1940.
5. Woodruff, I. O.: Cardiovascular Syphilis. *Am. J. Med.* 4:248, 1948.
6. Reader, G. G., Romeo, B. J., Webster, B., and McDermott, W.: The Prognosis of Syphilitic Aortic Insufficiency. *Ann. Int. Med.*, 27:585 (Oct.) 1947.
7. Maynard, E. P., Jr., and Lingg, C.: The Prevention of Cardiovascular Syphilis. *Brooklyn Hosp. J.*, 4:18 (July) 1946.
8. Gross, H., & Wallerstein, L.: A Clinical-pathological Study of the Effect of Syphilis on the Heart and Aorta. *M. Clin. N. Amer.*, 32:1439 (Sept.) 1948.
9. Thorner, M. C., and Carter, R. A.: The Roentgenologic Diagnosis of Syphilitic Cardiovascular Disease. *Am. Practitioner*, 2:301 (Jan.) 1948.
10. Griffith, G. C.: The Early Diagnosis of Syphilitic Aortitis. *Am. Practitioner*, 2:299 (Jan.) 1948.
11. Cole, H. N. et al: Co-operative Clinical Studies in the Treatment of Syphilis: The Effect of Specific Therapy on the Prophylaxis and Progress of Cardiovascular Syphilis. *J.A.M.A.*, 108:1861, 1937.
12. Moore, J. E.: *Arch. Int. Med.*, 49:1932.
13. Webster, B., and Reader, G. G.: The Effect of Antisyphilitic Treatment on the Microscopic Appearance of Syphilitic Aortitis. *Amer. J. Syph. Gon. & Ven. Dis.*, 32:19 (Jan.) 1948.
14. Syphilis Study Section, National Institute of Health: The Status of Penicillin in the Treatment of Syphilis. *J.A.M.A.*, 136:873 (Mar. 27) 1948.
15. Dolkart, R. E., and Schwemlein, G. X.: Treatment of Cardiovascular Syphilis with Penicillin. *J.A.M.A.*, 129:515 (Oct. 13) 1945.
16. Scott, V., Maxwell, R. W., and Skinner, J. S.: The Jarisch-Herxheimer Phenomenon in Late Syphilis. *J.A.M.A.*, 139:217, (Jan. 22) 1949.
17. Callaway, J. L. et al: The Use of Penicillin in the Treatment of Syphilis of the Central Nervous System. *Am. J. Syph., Gonorr. & Ven. Dis.*, 30:110, 1946.
18. Moore, J. E.: Penicillin in Syphilis. Springfield, Ill., Charles C. Thomas Publisher. 1946, p. 57.
19. Kossman, C. E., and Flaum, G.: Penicillin in the Treatment of Cardiovascular Syphilis. *Mod. Concepts Cardiovascular Dis.*, 17: No. 1, Jan. 1948.
20. Russek, H. I. et al: Treatment of Cardiovascular Syphilis with Penicillin. *Ann. Int. Med.*, 25:957 (Dec.) 1946.
21. Tucker, H. A., and Farmer, T. W.: Penicillin in Cardiovascular Syphilis: Early Reactions to Administration. *Arch. Int. Med.*, 80:322 (Sept.) 1947.
22. Edeiken, J., Falk, M. S., and Steiger, H. P.: Observations on Penicillin treated Cardiovascular Syphilis. *Am. J. Med. Sc.*, 217:475 (May) 1949.
23. Stokes, J. H., Steiger, H. P., and Gammon, G. D.: Three Years of Penicillin Alone in Neurosyphilis. *Am. J. Syph., Gonorr. & Ven. Dis.*, 32:28 (Jan.) 1948.

### COMMITTEE CHAIRMEN FOR 1950 MEETING

Wichita, Kansas

May 15-18, 1950

General Chairman—Dr. Clyde W. Miller

Scientific Program.....	Dr. J. P. Berger	Publicity.....	Dr. L. A. Donnell
Entertainment.....	Dr. L. K. Nix	Reception.....	Dr. R. H. Maxwell
Technical Exhibits.....	Dr. E. S. Brinton	Auxiliary.....	Dr. D. Cramer Reed
Scientific Exhibits.....	Dr. J. B. Fisher	Housing.....	Dr. G. R. Tonn

Arrangements—Dr. B. P. Meeker



# The Present Status of Radioactive Isotopes in Medicine

Leonard A. Walker, Ph.D.\*

Kansas City, Kansas

The purpose of this paper is to present briefly some of the fundamental facts about radioactive isotopes, to review those clinical applications which have been fairly well-explored, and to point out their possibilities and limitations.

In the last few years a new, powerful tool has appeared in medical and biological research. With the development of first the cyclotron by Lawrence and others<sup>1</sup> and later the atomic pile by the Manhattan Project<sup>2</sup> during the war, the dream of the medieval alchemist for the transmutation of elements has become a reality. A host of radioactive elements is now available for clinical or research purposes. The radioactive atoms can be readily distinguished from other atoms of the same element by the fact that they give off radiation of one type or another during their lives. This radiation can be detected by means of a number of well-developed instruments, of which the Geiger-Müller counter is perhaps the best known. Thus, when radioactive phosphorus ( $P^{32}$ ) is fed to an animal, one can determine in which organs the "tagged" atoms appear, how long they stay there, and often in what chemical combinations they exist. The uptake of  $P^{32}$

is a good index of the relative phosphorus metabolism of an organ. Bone marrow, the organ of highest phosphorus metabolism, will take up the highest percentage of radioactive phosphorus.

## Theory

There are a number of particles in nuclear physics which are of fundamental importance. Only the three most often referred to can be discussed here. These are the alpha particles, beta particles and gamma rays.

Beta particles are the simplest of all particles. They are electrons which originate in the nuclei of radioactive atoms. One electron weighs only about 1/7440th as much as a helium nucleus, or alpha particle. The beta particle is symbolized as:  $\beta$  or  $e$ .

Alpha particles are the nuclei of helium atoms. Helium has an atomic weight of four, with two positive charges on the nucleus and two electrons outside the nucleus. Thus, when a helium atom loses the two electrons outside the nucleus, the resultant "alpha particle" has a charge of +2 and a "mass" (atomic weight) of four. In the language of nuclear physics one symbolizes an alpha particle:  $\alpha$  or  ${}^4_2\text{He}$  or simply  $\text{He}^4$ . Hence, the radioactive isotope of phosphorus, with atomic weight of 32

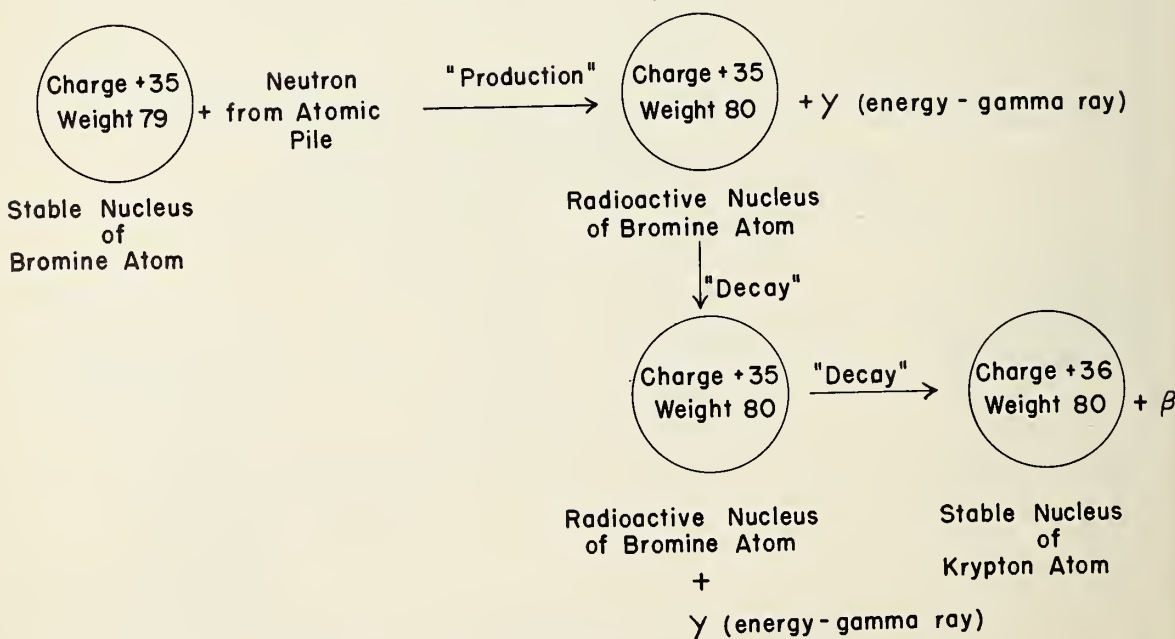


Figure 1. Production of radioactive bromine atom ( $\text{Br}^{80}$ ) and its subsequent decay to a stable atom of krypton ( $\text{Kr}^{80}$ ).

\*Department of Oncology, University of Kansas Medical Center. Aided by contract No. AT-29-1-Gen. 141 between the United States Atomic Energy Commission and the University of Kansas.

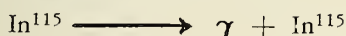
and 15 positive charge on the nucleus is written  $P^{32}$  or  ${}^{15}_{15}P^{32}$

The charge on the nucleus determines the identity of an element. One symbolizes the three isotopes of hydrogen as:  $H^1$ ,  $H^2$ , and  $H^3$  corresponding to the nuclei of ordinary hydrogen, "heavy" hydrogen (deuterium), and radioactive hydrogen (tritium), all with a single charge on the nucleus.

When the nucleus of an element, such as  $P^{32}$ , gives off a beta particle, it loses one negative charge, which is equivalent to gaining one positive charge. Because the charge on the nucleus determines the identity of the element, phosphorus changes into its neighbor on the periodic chart, sulphur, which differs from it by one charge on the nucleus. Thus, we write in symbols:  $P^{32} \longrightarrow \beta + S^{32}$ .

The radioactive atoms usually change to stable atoms after the radiation is given off. That is, the radioactive substance "decays" and after a time, depending on the isotope involved, the intensity of radiation from any given source will be appreciably diminished. The time required for half the atoms to "decay" is defined as the "half life" of the given isotope.

Gamma rays are electromagnetic radiation (energy), similar to x-rays and light except in their wave length. Since gamma rays are not particulate in nature, as are alpha and beta particles, an atom whose nucleus gives off only gamma rays remains chemically the same atom. No appreciable change in mass is apparent. Thus, we may write for the emission of gamma rays from Indium:



Often gamma rays and beta particles are emitted in combination with each other as in the case of radioactive bromine, ( $Br^{80}$ ). The decay of  $Br^{80}$ , which may give one gamma ray and one beta particle may be represented as

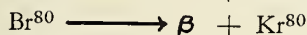
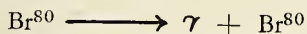


Figure 1 represents the production of a radioactive

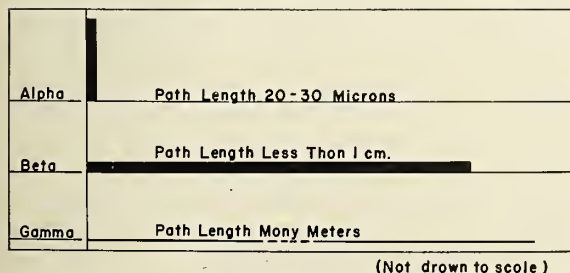


Figure 2. Path lengths and density of ionization in tissue of alphas, betas and gammas of the same energy. Length of figure proportional to range of particle. Height of figure proportional to density of ionization.

bromine nucleus, and its decay to a stable krypton nucleus.

An important fundamental difference in the behavior of alpha particles, beta particles and gamma rays is in the length of their paths and the density of their ionization. Figure 2 represents the path length and density of ion production in tissue of the three types of radiation. It is apparent that beta particles have a tremendous advantage over gamma rays because if they are released approximately at the site where radiation is desired, they radiate only the immediate vicinity. Figure 1 represents particles of the same energy. Of course a beta particle of lower energy will have a shorter path length than one of higher energy. Thus the beta particles from tritium,  $H^3$  (radioactive hydrogen) are so weak that their path in tissue is only a few microns. If tritium is concentrated in a cell, its radiation would be so localized that it would probably kill only that cell, or at most a few neighboring cells.

#### Applications

There are three main uses for radioactive isotopes in medicine. These are therapy, diagnosis and research. For radiation therapy, the radioactive isotopes present a theoretical advantage over the classical methods of x-ray and radium therapy. The particular isotope may be selectively taken up by certain organs, as  $P^{32}$  is taken up by bone marrow. This concentrates radiation at the particular site which one wishes to radiate. With the classical method, all normal tissue which lies in the path of the x-rays must be exposed to radiation. For research, the radioactive atoms have the advantage that they can be distinguished from all other atoms of the same element in the organism.

In diagnosis, the radioactive isotope is administered and its uptake by particular organs may indicate relative metabolic activity or lack of activity of the organ in question with respect to the meta-

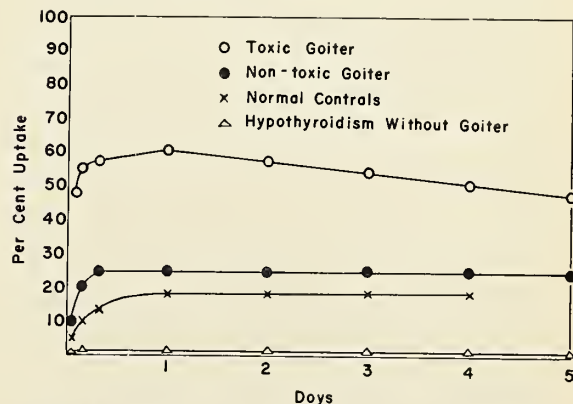


Figure 3. Uptake of  $I^{131}$  by the thyroids of normal persons and of patients with various types of goiters (after Hamilton, Soley, Reilly and Eichorn, The American Journal of Diseases of Children, 1943).



bolism of the element used. For example, small amounts of radioactive iodine given to a patient previously kept for a time on an iodine-free diet may be taken up by the thyroid in three fairly distinct manners. The manner of uptake depends upon the activity of the thyroid, that is, a normal, decreased, or increased thyroid activity.

Figure 3 shows the uptake of  $I^{131}$  as a function of time<sup>3</sup> in a series of 11 patients showing these different degrees of thyroid function. The uptake is measured by the counts per minute recorded on an externally situated Geiger counter. Here we have a new method of determining thyroid activity which is simple to administer, harmless, and which probably is uninfluenced by the emotional state of the patient, in contradistinction to conventional measurements of basal metabolic rates.

The excretion of  $I^{131}$  in the urine is also followed during the tests. The curves of excretion as a function of time in the four classes of normal, hyperthyroid, hypothyroid, and carcinoma patients are shown in Figure 4.<sup>4</sup> The four main types of curve

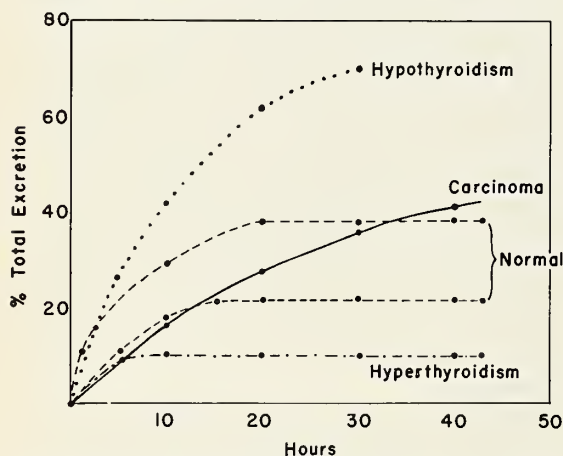


Figure 4. Total urinary excretion of tracer doses of radioactive iodine in normal and principal abnormal thyroid types (after Hayden and Corrigan, Harper Hospital Bulletin, 1948).

correspond to the classes as determined by the uptake by the thyroid.

Another interesting diagnostic application of radio-iodine is its use in the diagnosis of brain tumors. Diiodofluorescein, incorporating  $I^{131}$  is given intravenously. This compound is taken up specifically in some brain tumors.<sup>5</sup> By measuring the counts per minute recorded on an externally situated Geiger counter at various points on the patient's head, one may get a fairly accurate idea of the location of the tumor. Moore<sup>6</sup> claims a high percentage of successful diagnoses of brain tumors by this method.

Some other diagnostic uses of radioactive isotopes include diagnosis of malignant breast tumors, the measurement of circulation time and the measurement of blood volume.

Low-Beer and associates<sup>7</sup> have used  $P^{32}$  for the study of breast tumors, and believe that the uptake of  $P^{32}$  is appreciably higher in most malignant breast tumors as compared with non-malignant tumors. Radioactive phosphorus in the form of sodium phosphate is given intravenously, and the counts per minute recorded by a Geiger counter at various points on the surface of the breast.

Hubbard, Preston and Ross<sup>8</sup> and others have used radioactive sodium ( $Na^{24}$ ) as a measure of circulation time. The radioactive sodium in the form of sodium chloride is injected intravenously into one arm, and a Geiger counter placed over the opposite hand. A sudden increase in the counting rate indicates the circulation time. The method has the advantage that it does not depend upon subjective reactions of the patients, as do methods depending on taste, and that it is harmless. Use of potassium cyanide for measurement of circulation time has the disadvantage that it is difficult to adjust the dosage in children. The method using  $Na^{24}$  is useful in studying circulatory impairment<sup>9</sup> in Raynaud's disease, gangrene, and other vascular diseases.

Radioactive erythrocytes incorporating  $P^{32}$  have been used<sup>10</sup> to determine blood volume. They have the advantage that they do not leak out into the tissue spaces as do some of the dyes.

Some therapeutic applications of radioactive isotopes are the use of  $I^{131}$  in treating thyroid malignancies<sup>11</sup> or hyperthyroidism,<sup>12, 13</sup> use of  $P^{32}$  in treating leukemia and polycythemia,<sup>14</sup> the direct infiltration of tumors by various radioactive substances, and the use of needles containing long-lived gamma emitters, such as radioactive cobalt to supplant radium in the treatment of such neoplasms as cancer of the uterus.

Lawrence<sup>15</sup> recently reported on the treatment of 121 polycythemia patients. He believes that the present outlook for polycythemia vera patients properly treated with  $P^{32}$  is as good as that of diabetic patients on insulin. The  $P^{32}$  may be administered intravenously in the form of chromic phosphate. It is specifically taken up by the phagocytes of the bone marrow, spleen and liver. Thus the  $P^{32}$ , a pure beta particle emitter, is concentrated to a certain extent in the regions of hematopoietic activity. These energetic particles have a maximum range in tissue of less than one centimeter, so that little radiation is observed far from specific sites of localization. The dosage must be carefully controlled because an overdose may result in anemia or thrombopenia.

The above is a brief description of some of the clinical uses of radioactive isotopes. Routine use of several of these techniques is soon to be started at the University of Kansas Medical Center. Both clinical and laboratory research will also be carried out. Although use of radioactive isotopes in clin-

ical work has accomplished and will accomplish much good and although some of these techniques are taking a permanent place in clinical medicine, it is important to emphasize that they also have certain definite limitations.

First, isotopes can and should be used only under the careful supervision of workers with a great deal of training and experience in both the practical and theoretical aspects of the problem. Second, much of the clinical use has been of a strictly palliative nature. More important than finding new methods to irradiate tumors will be the exploitation to the fullest extent of the third main use for radioactive isotopes, which is the study of fundamental physical and chemical changes in the normal and malignant cell or the normal and pathological organism.

If we knew the chemical nature of malignancy, we might be able to use more fundamental and less empirical methods of treating it. One of the most fascinating and least-explored approaches is the search for an organic compound that localizes to a high degree in malignant cells but not in normal cells. If such a compound could be found it might then be labeled in a stable position with tritium ( $H^3$ ) because its radiation is ideal for selective radiation. The beta particles could then have their lethal effect only on malignant cells. Tritium has other properties which makes it intriguing for this purpose. It is probably the cheapest of all isotopes. It is available in almost unlimited quantities, since it is a by-product of the atomic pile. It has a rapid rate of excretion<sup>16</sup> once it is catabolized to a simple form, such as hydrogen ion or water. It is apparent that such a compound, if found, might be made radioactive with  $H^3$ , administered in appropriate doses, and malignant growths, however remote anatomically, might be killed. However, such a compound, either set free or catabolized, would be rapidly excreted and long irradiation of normal tissues would be avoided.

Two good examples of how research with both radioactive and non-radioactive isotopes have modified our classical ideas are the new concepts of the first stages of photosynthesis and the discovery of the dynamic role of fat in the living organism.

It had long been thought that the first step in photosynthesis was a combination of carbon dioxide with water to give formaldehyde. However, when carbon dioxide containing radioactive carbon was fed to a plant<sup>17</sup> the first step was found to be a combination of carbon dioxide with a large molecule to form a carboxyl group. Oleic acid labeled with

heavy hydrogen ( $H^2$ , deuterium) and fed to an animal on a low-fat diet appeared to a marked extent in the fat depots of the animal.<sup>18</sup> The popular idea that fat deposits are static must be revised. In mice, this so-called fat depot actually is about 50 per cent broken down and resynthesized in five to nine days.

#### Summary and Conclusion

Although the clinical uses of radioactive isotopes are important, they have a much more basic and essential role in research. It is to be hoped that doctors will familiarize themselves with the possibilities and limitations of these new tools, and that they will take full advantage of clinical applications. It will become possible for any informed doctor in medical practice to have these materials used on his patients under the supervision of doctors constantly working with these special techniques. The future of medicine lies in an ever-changing, forward-looking attitude. It is to be hoped that the tools of the physical sciences will be increasingly used.

#### Bibliography

1. Lawrence, E. D., and Edlefson, N. On the Production of High Speed Protons. *Science* 72: 376, 1930.
2. Smyth, Henry De Wolf. *Atomic Energy for Military Purposes*. Princeton University Press, 1946.
3. Hamilton, J. G., Soley, M. H., Reilly, W. A., and Eichorn, K. B. Radioactive Iodine Studies in Childhood Hypothyroidism. *American Journal of Diseases of Children* 66: 495-502, 1943.
4. Hayden, H. S., and Corrigan, K. E. Diagnostic Use of Radioactive Tracers. *Harper Hospital Bulletin* 6: 1, 1948.
5. Moore, G. E., Hunter, S. W., and Hubbard, T. B. Clinical and Experimental Studies of Fluorescein Dyes, With Special Reference to Their Use for the Diagnosis of Central Nervous System Tumors. *Annals of Surgery* 130: 637, 1949.
6. Moore, G. E. Use of Diiodofluorescein to Diagnose and Localize Brain Tumors. *Science* 107: 569, 1948.
7. Low-Beer, B. V. A., Bell, H. G., McCorkle, N. J., and Stone, R. S. Measurement of Radioactive Phosphorus in Breast Tumors in Situ; a Possible Diagnostic Procedure. *Radiology* 47: 492-493, 1946.
8. Hubbard, J. P., Preston, W. N., and Ross, R. A. Velocity of Blood Flow in Infants and Young Children Determined by Radioactive Sodium. *J. Clin. Invest.* 21: 613-617, 1942.
9. Quimby, E. H., and Smith, B. C. Tracer Studies with Radioactive Sodium in Patients with Peripheral Vascular Disease. *Science* 100: 175-177, 1944.
10. Brown, F. A. Jr., Hempelmann, L. H. Jr., and Elmen, R. The Determination of Blood Volume with Red Blood Cells Containing Radioactive Phosphorus. *Science* 96: 323-324, 1942.
11. Seidl, S. M., Marinelli, L. O., and Oshry, E. Radioactive Iodine Therapy Effect on Functioning Metastasis of Adenocarcinoma of the Thyroid. *J. Am. Med. Assoc.* 132: 838-847, 1946.
12. Hertz, S., and Roberts, A. Application of Radioactive Iodine in Therapy of Grave's Disease. *J. Clin. Invest.* 21: 624, 1942.
13. Hertz, S., and Roberts, A. Radioactive Iodine in the Study of Thyroid Physiology. VII. The Use of Radioactive Iodine Therapy in Hyperthyroidism. *J. Am. Med. Assoc.* 131: 81-86, 1946.
14. Lawrence, J. H. The Use of Isotopes in Medical Research. *J. Am. Med. Assoc.* 134: 219-225, 1947.
15. Lawrence, J. H. The Control of Polycythemia by Marrow Inhibition. *Nuclear Science Abstracts* 3, 9: 389, 1949.
16. Hevesy, G., and Hofer, E. Die Verweilzeit des Wassers im Menschlichen Körper. *Klinische Wochenschrift* 13, 2: 1524, 1934.
17. Ruben, S., and Kamen, M. D. Photosynthesis With Radioactive Carbon. IV. Molecular Weight of the Intermediate Products and a Tentative Theory of Photosynthesis. *J. Am. Chem. Soc.* 62: 3451-3455, 1940.
18. Schoenheimer, R., and Rittenberg, D. Deuterium as an Indicator in the Study of Intermediary Metabolism. III. The Role of the Fat Tissues. *J. Biol. Chem.* 111: 175-181, 1935.



# Compound Injuries of the Hand Due to the Mechanical Corn Picker

Creighton A. Hardin, M.D., and David W. Robinson, M.D.\*

Kansas City, Kansas

Manual workers and farmers because of the nature of their work are prone to injure their hands. Of the many accidents in industry over one-third are to the hand!<sup>1</sup> Compound injury to the hand caused by the mechanical corn picker is presented because of its particular regional interest. The type of injury is predominately damage to the soft tissue and covering skin, although nerves, tendons, and bones may be involved. Because of the economic losses from such crippling injuries and because of the complexity of structures damaged, basic principles of treatment should be understood and followed.

## Protection of the Open Wound

Since this injury must be cared for promptly and definitively, and because the injured farmer has been working under grossly dirty circumstances, the earliest care should be simple and prophylactic in the avoidance of further mechanical, chemical, or bacterial injury.<sup>3</sup> The wound should be adequately exposed by cutting away covering clothing, and then be covered with a sterile dressing. Hemorrhage is usually adequately controlled by a pressure bandage, a tourniquet being rarely necessary. The injured member is then immobilized by a simple splint if definitive surgical treatment is to be given at some distance. The wound should be protected but left alone. Thereafter, the care is the surgeon's responsibility.

## Determination of the Extent of Injury

On arrival at the hospital, a brief examination of the hand will give an estimation of the loss of sensory innervation and of tendon disruption. X-rays taken in anteroposterior and lateral oblique positions are useful. Further evaluation and examination can best be accomplished under anesthesia in the operating room. Compound injuries are often more serious and extensive than suspected.<sup>2</sup> A bloodless operative site under a tourniquet is a necessity for the determination of the extent of the injury. General anesthesia is better than regional block because the tourniquet will be better tolerated and because the direct application of a pedicled graft from the trunk may be necessary.

## Time Factor From Accident to Operation

The optimum time for operative repair is the early

hours before the contaminated wound becomes an infected wound. All open wounds are contaminated and especially these wounds. If repair can be done before bacteria multiply, closure can be accomplished with greater safety. Six hours has been considered the orthodox time limit. Wounds differ, however, in their degree and type of tissue injury and in the virulence of the bacteria present. A time limit is therefore relative. Closures of wounds have been uncomplicated up to 12 or even 24 hours after the accident but beyond this time the chances of severe infection following closure are great.

## Preparation of the Wound

Meticulous attention to cleanliness is of first importance. The skin around the undisturbed sterile dressings is carefully washed with bland white soap and sterile water. Any grease present is removed with ether or benzine. The skin is prepared further with a suitable antiseptic solution up to the wound edge. The wound itself is then exposed and is lavaged with copious quantities of sterile saline solution to remove all foreign material. No chemicals are ever applied to the open wound.

## Debridement

By nature of the crushing and moving forces, mechanical injury produces necrosis of tissue. Dead tissues should be excised but because the hand contains so many important structures, debridement should be conservative. Obviously dead muscle should be removed because of the danger of anaerobic infections, chiefly gas gangrene and tetanus. Devitalized muscle appears brown, gray, or blue, does not bleed, and does not contract when stroked or cut. Excision of the intrinsic muscles of the hand should not be done in the radical manner of debridement of less vascular tissues such as the buttocks, back or thighs. When incisions are needed for more exposure of parts of the damaged hand they should be made in the lines of skin wrinkles and never at right angles to the flexion creases.

## Wound Coverage

After the cleansing and debridement, the plan to be executed at once is to transform the open contaminated wound into a clean closed wound.<sup>4</sup> Severe crushing wounds are not susceptible to immediate repair of deeper structures.<sup>6</sup> An infected or potentially infected wound should never be closed but, in general, wounds of the hands should be

\*From the Department of Surgery, Division of Plastic Surgery, of the University of Kansas Medical Center.

closed as soon as it is safe to do so. Wounds that are seen early enough and that can be cleansed and debrided should have immediate coverage. If the skin and subcutaneous tissues have been destroyed but there is viable underlying areolar tissue, a split skin graft should be applied.

This procedure is rarely possible with such injuries as are produced by the corn picker because of the deeper damage. When tendons, bones, nerves, or joints are exposed, early coverage for protection is mandatory and should be accomplished by a pedicle graft. Such a procedure means longer hospitalization and inconvenience, but the salvage of these structures is important. To leave these tissues uncovered means necrosis and further irreparable damage. At first glance, the impulse of the surgeon is to amputate the severely injured member. It is easy to cut off and throw away tissue, but it is difficult to salvage it for future usefulness. Whenever possible, length and function of the mangled hand should be preserved. The salvaged remains of a hand are usually better functionally than the best of mechanical devices.

If a flap (pedicled graft) is necessary to cover the hand's vital structures, the opposite side of the abdomen is usually the best donor site. Flaps include the skin, fat, and fascia down to the first cleavage plane along which runs most of the blood supply. They may be based superiorly or inferiorly but rarely laterally. The base should be wide so that the length and width are roughly equal in size. The donor bed on the abdomen may be closed but, if this cannot be readily accomplished, a split skin graft will cover the opened area adequately.

The arm and hand are held firmly to the abdominal wall with adhesive tape or a plaster of Paris

cast. When the blood supply has been established between the abdomen and hand, a process which takes an average of between 18 and 21 days, the base of the flap can be sectioned under local anesthesia. The excessive margins of the flap on the hand should not be revised for a few weeks. The excessive fat in the flap can be excised later if it is unsightly. The fat of the flap gives a soft pliable substance for tendons denuded of paratenon to glide through as well as a good protective covering for bone, nerve or joint. It also provides a suitable operative site if future deep reconstructive surgery is necessary.

#### Value of Penicillin and Antiseptics

Penicillin will not prevent infection in poorly treated surgical wounds. Cleansing debridement and wound closure cannot be minimized. Mason<sup>6</sup> reviewed a series of hand injuries before and after the use of penicillin. He concluded that early and adequate surgery alone produced results as good as the results when penicillin was added to the treatment. Yet, penicillin should be given for added prevention of severe infection. Strong skin chemical antiseptics in wounds do not safeguard the patient against infections. They can only do harm by further damaging open tissues. Tetanus is best prevented by leaving behind no necrotic tissue or foreign bodies, but further precautions should be taken by the giving of T.A.T., 1500 to 3000 U. intramuscularly after a negative skin test of the serum diluted 1:10 in saline. The dosage with skin test is repeated before subsequent operations on the hand. If tetanus toxoid immunization has been given previously within one year, a booster dose of one cc. of toxoid is recommended.

#### Immobilization and Compression

The use of bulky compression bandages and splints put the hand at rest to allow early healing.



Figure 1 A. Case 1. Gangrenous fingers of right hand, dorsal view.



Figure 1 B. Case 1. Palmar view shows extensive laceration which apparently destroyed the circulation.



By their use, soft tissue infection subsides more readily, venous congestion and edema are lessened,<sup>5</sup> and the patient is more comfortable. Paralyzed groups of muscles are protected from the pull of uninjured antagonistic ones. Yet, fingers should never be rigidly fixed in one position for more than two and a half weeks for fear of tendon fixation in

injuries should be immobilized in the position of function at the time of repair.<sup>7</sup> This means the thumb in the position of opposition (vertically away from the palm in the pronated outstretched position), the fingers flexed 15 to 30 degrees in each joint to assume the grasping position, and the wrist somewhat dorsiflexed. When good healing is reasonably assured, finger motion should be allowed and continued daily.

#### Case Reports

*Case 1.* R. M., white male, age 18 years, admitted to the University of Kansas Medical Center on November 13, 1949, corn picker injury 10 days previously. X-rays negative for fractures but all fingers gangrenous except thumb (Figure 1, A and B). After three days of continuous wet dressings, the fingers were amputated just distal to the metacarpophalangeal joints. An abdominal flap (Figure 2) was applied to the open stump five days later. The delay was felt necessary to allow further wet dressings for open surgical drainage because the wound was quite dirty and suppurating. The flap was sectioned completely 22 days after application and the free open end simply draped over the stump. About one month later, on January 18, 1950, the flap was revised and the free tissue shaped in thin conical projection with its long axis in line with the third metacarpal. Later a bone graft can be affixed to the third metacarpal stump in the pedicle to give the semblance of a rigid finger to which the thumb can be opposed to allow grasping function.

*Case 2.* R. F., white male, age 25 years, admitted to the University of Kansas Medical Center on October 29, 1948, five and one-half hours after injuring his left hand in a corn picker (Figure 4, A and B). Although only the base of the index finger proximal



Figure 2. Case 1. Attached left upper quadrant pedicle to stump of hand. Base of flap sectioned over one-half way through at 18 days, complete section 22 days. Note nearly hairless skin and skin graft in flap donor bed.

tendon sheaths, joint capsule shortening, or perhaps intra-articular adhesions. The fingers should be passively put through their range of motion without much pressure daily after the 18 days.

#### Functional Restoration

Early wound closure minimizes deep cicatrization and thereby saves time and function. Severe hand



Figure 3 A. Case 1. Dorsal view of reshaped flap. Semblance of finger is present.

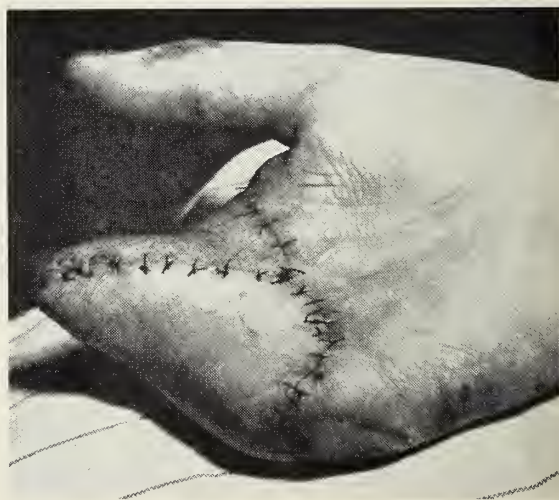


Figure 3 B. Case 1. Suture line of revision shown on volar side. A bone graft will give rigidity desired later.



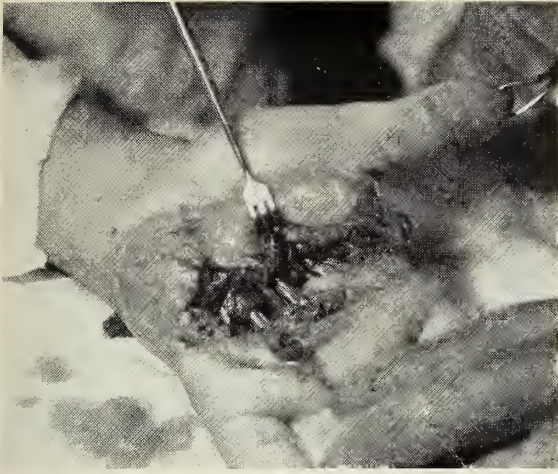


Figure 4 A. Case 2. Palmar laceration. Severe deep injuries.

phalanx was fractured, the soft tissues of both volar and dorsal sides were very seriously damaged. All tendons were shredded but not broken. All intrinsic muscles were badly ground up and dirty, containing grease, dirt and cornshucks. The digital vessels were intact but in marked spasm. The digital nerves were avulsed to the little finger and one side severed to the index finger.

Some palmar skin (Figure 4 A) was missing but most of the skin of the dorsum (Figure 4 B) was so damaged it had to be excised, exposing tendons and bones. Cleansing debridement was carried out, much of the necrotic muscle having to be removed, as well as all sublimus tendons. A large abdominal flap (Figure 5) based inferiorly was applied to the



Figure 5. Case 2. Abdominal flap to dorsum just before complete sectioning of base.



Figure 4 B. Case 2. Dorsum has much skin loss as well as deep injury. Note demarcation of dead skin.

hand. The volar laceration was loosely closed with a drain placed in one corner. A split skin graft covered the donor bed. Stellate ganglion blocks with Duracaine were given for three days to improve the poor circulation of the hand. T.A.T. 1500 U. was given immediately. A large dose of penicillin was administered for 17 days. A partial section of the base of the flap was done at 18 days and the flap was completely severed at 22 days.

The palmar wound healed (Figure 6 A) but there was so much scarring with incorporation of the profundus tendons that the fingers had very little motion. The fingers, also, were clumped together because of the loss of the intrinsic muscles. To gain more motion, the scar of the palm was excised and the tendons freed. One foot of a previously prepared bipediced abdominal tube was applied to the bared palm allowing loose fat to surround the tendons. This graft was sectioned at 15 days. The free end was later revised (Figure 6 B). The flap on the dorsum (Figure 7) has been revised and defatted. The hand is a useful one now although full extension and flexion of the fingers are definitely limited. The patient can pick up small objects or use his hand for hard farm labor. Release of the tendons allowed 30 degrees more motion of the fingers. No tendon transplants are advisable due to joint capsular fixation.

*Case 3.* F. B., white male, age 23 years, admitted to Wadsworth Veterans' Hospital, Leavenworth, Kansas, on November 17, 1949, three weeks after his right hand had been injured in a corn picker. The index, middle and ring fingers had been so badly damaged that the patient's local physician had amputated the three fingers (Figure 8, three weeks after admission). On November 23, the exposed dead proximal phalanx of the little finger was removed, the bone being black and necrotic. An ab-





Figure 6 A. Case 2. Dense palmar scar with all flexor tendons densely adherent to it.



Figure 6 B. Case 2. After excision of the scar and application of another pedicle graft (bipedicled tube) from the abdomen. The freed fingers give a much more useful hand.



Figure 7. Case 2. Abdominal flap on dorsum gives good coverage. Has since been revised and defatted.

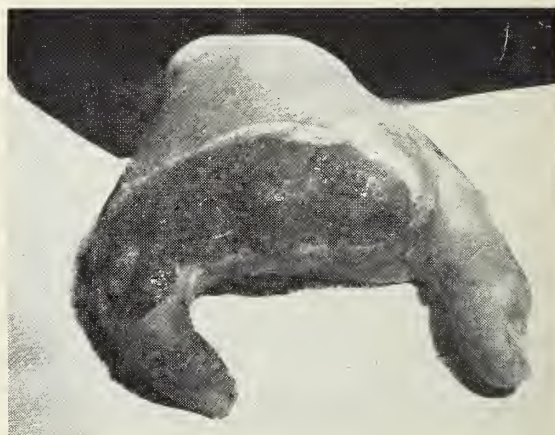


Figure 8. Case 3. Granulating stump of hand immediately before application of abdominal flap.

dominal flap from the hairless left upper quadrant was applied on December 2, a dermatone graft being applied to the donor bed. The flap was kept attached to the hand longer than usual, the base not being finally sectioned until January 4, 1950. The free margin of the flap had not been revised by February 1 but can be done soon after that. One or two metacarpals of the amputated fingers will be removed to collapse the hand and bring the little finger near the thumb for a grasping function. This finger minus its proximal phalanx will have to be fixed in position. It has no active motion.

#### Bibliography

1. Bunnell, S. *Surgery Of The Hand*, 1944. J. B. Lippincott, Page 78. Philadelphia.
2. Brown, J. B. The Repair Of Surface Defects Of The Hand. *Annals of Surgery*, 107: 952-97, 1938.
3. Koch, S. L. The Treatment Of Compound Injuries With Particular Reference To The Hand. *The Journal of the Michigan State Medical Society*, 38: 27-31, Jan., 1939.
4. Koch, S. L. The Immediate Treatment of Compound Injuries. *Illinois Medical Journal*, 67: 40-45, Jan., 1935.
5. Koch, S. L. The Use Of Compression As A Surgical Principle In The Treatment of Injuries. *Quart. Bull. Northwestern University Med. School*, 17: 257, 1943.
6. Mason, M. L. The Treatment Of Open Wounds Of The Hand. *Surg. Clinics of North America*, 28: 4-27, Feb., 1948.
7. Sullivan, J. E. Immobilization In The Treatment Of Wounds Of The Extremities. *Surg. Clinics of North America*, 21: 571-576, April, 1941.



# Subacute Bacterial Endocarditis Due to *Streptococcus Fecalis*: Failure of Massive Prolonged Penicillin Treatment, a Case Report with Autopsy\*

Henry S. Dreher, Jr., M.D.\*\*

Salina, Kansas

With the Assistance of Harriet Rouse, M.T.

The successful treatment of subacute bacterial endocarditis with penicillin in recent years is well known.<sup>1</sup> Fortunately, most infections are caused by penicillin-sensitive species of streptococci, particularly *Streptococcus viridans*.<sup>2</sup> Although the recovery rate from this disease is now reported to be 60 to 80 per cent by various investigators, there remains an important group of patients in whom the disease still is fatal.

The causative agent in many of these penicillin-resistant infections is the *Streptococcus fecalis*, or *enterococcus*.<sup>2,3</sup> Only recently have there been a few reports of recovery from subacute bacterial endocarditis due to *Str. fecalis*; most of these patients have necessarily been treated with massive doses of penicillin for prolonged periods, some in conjunction with one or more courses of streptomycin.

MacNeal, Blevins, and Poindexter<sup>3</sup> have reported recovery from *enterococcus* endocarditis in a patient treated with thiobismol, specific *enterococcus* bacteriophage, neo-arsphenamine, and penicillin. Leaman et al.<sup>4</sup> have recently reported recovery from *Str. fecalis* endocarditis in a patient treated intensively with penicillin and caronamide following unsuccessful early treatment with penicillin and streptomycin. Hein and Berg<sup>5</sup> treated two patients with *Str. fecalis* endocarditis with massive doses of penicillin resulting in recovery. One of their patients received 12,000,000 units daily for 60 days, or 720,000,000 units. The second patient was given 20,000,000 units daily for the same period, or a total of 1,200,000,000 units. Clark, Bryner, and Rantz,<sup>6</sup> in a report of nine cases of penicillin-resistant subacute bacterial endocarditis, record one case of the disease caused by *Str. fecalis* treated with eight to 12,000,000 units daily for 60 days with apparent recovery from the infection after a total of approximately 900,000,000 units of penicillin. In another series of 19 cases,<sup>7</sup> there were three instances of infection reported as due to *Str. viridans*, type *fecalis*, and all three patients recovered after relatively small amounts of penicillin were given. Recovery in one

of these patients was attributed to streptomycin. Guss<sup>8</sup> has also reported a case with recovery from *Str. fecalis* endocarditis treated with penicillin and streptomycin.

Because of the importance of using adequate amounts of penicillin early in the course of the disease, all writers stress the necessity for careful bacteriologic control in adjusting dosage to the sensitivity of the organism. In general it is agreed that penicillin should be given in sufficient amount to produce prolonged blood concentration five to 10 times that which inhibits growth of the organism *in vitro*. In penicillin-resistant cases, blood concentrations many times higher have too often been ineffective.

The purpose of this report is to record a treatment failure in a case of subacute bacterial endocarditis caused by *Str. fecalis*. Unusual features include the use of more than 3,000,000,000 units of penicillin over a period of 16 months of almost continuous treatment; the use of various adjuvant measures including streptomycin, caronamide, fever and bacteriophage therapy; and isolation of the infecting organism from the blood, teeth, tonsils and stool, and from various tissues at necropsy including the heart's valves.

## Case Report First Admission

Mrs. R. Mc., a 30-year-old negro housewife, was admitted to the University of Kansas Medical Center on September 19, 1947. Her chief complaints were fatigue and enlargement of the finger tips of three months duration; and, chills, fever, and leg pain for two months.

*History of Present Illness:* The patient became ill three months prior to admission with gradual onset of fatigue, failing appetite, and slow weight loss. She soon noticed painless enlargement of the tips of all fingers. Two months prior to admission, she began having aching pain in the calf muscles and knees, aching and stiffness of the fingers, and daily chills with fever to 104° F. The onset of chills and fever followed a few days after a brief episode of pain in the right lower quadrant of the abdomen accompanied by nausea and vomiting for one day. All symptoms persisted from their onset, and the patient remained in bed part of the time at home.

\*From the Department of Internal Medicine, University of Kansas Medical Center, Kansas City, Kansas.

\*\*Former Resident in Medicine, University of Kansas Medical Center. The author wishes to express his deep appreciation to Dr. Ralph H. Major, Chairman, Department of Medicine, and to Dr. Franklin D. Murphy, Dean, University of Kansas School of Medicine, for aid in making possible the treatment of this patient.



One month prior to admission she had a sudden attack of retrosternal pain with exertional dyspnea and radiation of pain into the neck and left arm. A physician who saw her made the diagnosis of "heart attack" and recommended hospitalization. No treatment was given. The chest pain did not recur, and the patient continued at home on partial bed rest until admission. In the month prior to admission she noticed occasional painful red nodules in the finger tips which persisted for a few days and then disappeared.

Additional symptoms from the review of systems were: frontal headache of three months duration; palpitation of the heart of three months duration; constipation, bloating and belching, especially after eating cabbage and beans, of five years duration; scanty menses, of three months duration; and nocturia twice nightly for two months.

*Family History:* Not contributory.

*Past History:* The patient had had normal pregnancies in 1936, 1940 and 1946. There was no history of rheumatic fever or chorea. The patient had no cardiac symptoms prior to the present illness. In 1939 she was ill at home for three months with a "nervous breakdown."

Five months prior to the onset of the present illness, the patient was examined in the Outpatient Clinic with complaints of belching, abdominal pain and dizziness after meals. Physical examination showed evidence of chronic malnutrition. The heart was negative except for reduplication of the mitral second sound. Complete blood count, urinalysis and sedimentation rate were within normal limits. At a single subsequent visit four months before the present illness, the patient reported marked improvement after symptomatic medication and cessation of smoking. She was not seen again until three days prior to hospital admission, and the above history was then obtained.

*Physical Examination:* The patient was an intelligent, thin, poorly nourished, colored female who appeared chronically ill. Temperature was 98° F. Pulse rate was 96, regular sinus rhythm. Blood pressure was 80/50. The conjunctivae and optic fundi were pale. The heart was not enlarged; there was a marked apical systolic thrill; a harsh grade four systolic murmur was heard at the mitral area and was transmitted over the entire precordium, into the left axilla and to the back. The spleen was tender and barely palpable. There was marked clubbing of the fingers and mild clubbing of the toes. Two small, red, tender macular areas were present in the right palm, and a similar spot was present on the plantar surface of the right foot. Neurologic examination was negative.

*Laboratory Examination:* R.B.C. 3,900,000 per

cu. mm. Hemoglobin nine grams per hundred cubic centimeters or 58 per cent. W.B.C. 11,200 with normal differential count. Urinalysis showed a faint trace of albumin, and microscopically there were numerous pus cells per high power field. Urine culture was negative. The erythrocyte sedimentation rate was 30 mm. in one hour (Cutler). Blood Wassermann was negative. Blood N.P.N. was 27.2 mg. per hundred cubic centimeters, creatinine 1.5 mg., and sugar 78 mg. An electrocardiogram showed only sinus tachycardia. X-ray and fluoroscopy of the heart and chest were negative.

The initial blood culture, of September 16, 1947, was rapidly positive for a Gram-positive coccus in pairs and short chains, identified as *Streptococcus fecalis*, or enterococcus.<sup>9, 10</sup> There were more than 200 colonies per cc. of blood by plate count. The colonies on blood agar showed alpha or green type hemolysis. Growth in broth culture was turbid and smooth. The organism showed a tendency to liquefy gelatin and Loeffler's medium. Growth was uninhibited at pH 9.6 and in 6.5 per cent sodium chloride solution. Heat resistance tests showed survival of the organism for 30 minutes at 60 C. In glucose broth the organism grew at a final pH of 4.5. The organism was differentiated from *Streptococcus SBE* by the absence of mucoid production in five per cent sucrose broth and five per cent sucrose agar. Repeated attempts to type the organism serologically by the Lancefield method were unsuccessful. (The same cultural characteristics of the organism were consistently demonstrated 12 times, from the first culture to that of January 28, 1949). Initial sensitivity tests of the organism showed that growth was not inhibited by 25 units of penicillin per cc. of medium. (The extremely high resistance to penicillin, in view of later findings, is unexplained). Growth was inhibited by 3.12 micrograms of streptomycin per cc. of medium. Growth was not inhibited by 25 mg. of sulfadiazine per cc. of medium.

*Clinical Course and Treatment:* With the diagnosis established as subacute bacterial endocarditis due to *Str. fecalis*, treatment with penicillin was started September 21, 1947. Doses of 50,000 units of crystalline penicillin G were given intramuscularly every two hours for one day, then 100,000 units every two hours for two days, then 500,000 units every two hours for two days (Figure 1). Because of the reported high in vitro penicillin resistance of the organism, treatment was then continued with streptomycin alone from September 26 to October 20. A total of 50 Gms. of streptomycin was given, in doses of 0.16 to 0.5 Gm. intramuscularly every four hours. Streptomycin blood levels ranged from 4.8 to 9.6 micrograms per cc. The first negative blood cultures, October 6 and 11,

FIGURE 1

## Summary of Penicillin and Caronamide Therapy, Penicillin Blood Levels, and Blood Cultures

First Admission												
Type	Route	Penicillin		Subtotal, million units	Penicillin Blood level		Caronamide			Blood Culture colonies		
		Date From	Date To		Unit Dosage	Date	Units/cc. of serum	Date From	Date To	Dosage	Date	per cc.
Aqueous	I.M.	9-21-47	9-26	50,000 to 500,000 q.2 hr.						9-16-47	200	
Crystalline	G	9-26	10-20	(Streptomycin)						9-21	150	
										10-1	9	
"	I.M.	10-24	11-7	100,000 to 150,000 q.3 hr.	10-27	1.09				10-6	0	
										10-11	0	
"	I.M.	11-7	11-13	(Streptomycin)						10-16	150	
										10-21	150	
"	I.M.	11-13	12-22	150,000 to 300,000 q.3 hr.	11-17	2.18	11-17	11-21	1 to 1.5 gm. q. 3 hr.	11-3	14	
										11-5	16	
"	I.M.	12-22	12-24	625,000 q.3 hr.	11-27	2.18	11-21	12-6	2 gm. q. 3 hr.	12-8	8	
										12-15	4	
"	"	12-24	1-20-48	1,250,000 q.3 hr.	12-23	4.35	12-24	1-1	2.5 gm. q. 3 hr.	12-23	4	
										12-30	0	
"	"				12-30	34.50	1-4	1-12	2.5 gm. q. 3 hr.	1-9-48	0	
										1-13	0	
"	"				1-4	34.50			(Skin rash)	1-16	0	
										1-20	0	
"	"				1-7	34.50				1-27	0	
										1-11	8.70	
"	"				1-13	34.50				1-30	0	
										1-16	8.70	
"	"				1-20	17.50						
										1-20	17.50	
Outpatient Clinic											2-12	70
Second Admission												
"	"	2-17	2-29	2,000,000 q.3 hr.	2-18	34.50	2-17	2-20	2.5 gm. q. 3 hr.	2-18	0	
										2-23	0	
"	I.V.	2-29	3-10	16,000,000 per 24 hr.	2-23	34.50	2-21	3-1	2.5 gm. q. 3 hr.	2-28	0	
										3-1	0	
"	I.M.	3-23	3-28	625,000 q.3 hr.	3-3	139.0	3-23	3-28	2.5 gm. q. 3 hr.	3-6	4	
										3-10	4	
"	I.V.	3-29	4-11	5,000,000 per 24 hr.	3-10	557.0	3-29	5-4	3 gm. q. 3 hr.	3-17	25	
										3-24	45	
"	I.M.	4-11	5-3	625,000 q.3 hr.	4-8	17.50	3-29	5-4	3 gm. q. 3 hr.	3-29	8	
										4-6	15	
"	I.V.	5-4	5-9	5,000,000 per 24 hr.	4-13	17.50	4-11	5-3	625,000 q.3 hr.	4-13	7	
										4-20	10	
"	I.V.	5-10	5-31	10,000,000 per 24 hr.	4-21	17.50	5-4	5-9	5,000,000 per 24 hr.	4-27	8	
										5-4	6	
Duracillin	I.M.	6-8	6-15	600,000 q.6 hr.	5-5	4.50	5-10	5-31	10,000,000 per 24 hr.	5-14	7	
										5-21	30	
"	"	6-16	6-30	2,400,000 q.6 hr.	5-21	69.50	6-8	7-14	4 gm. q. 3 hr.	5-28	6	
										6-11	55	
"	"	7-1	7-18	2,400,000 q.3 hr.	6-9	17.0	7-1	7-18	2,400,000 q.3 hr.	6-18	4	
										6-25	2	
"	"	7-19	8-21	3,000,000 q.3 hr.	6-25	69.50	7-17	8-21	4 gm. q. 3 hr.	6-29	2	
										7-2	2	
"	"				7-9	140.0			6 x daily	7-6	0	
										7-16	0	
"	"				7-13	1113.0				7-20	0	
										7-31	0	
"	"				8-10	69.50				8-10	0	
										8-17	0	
"	"				8-17	557.0				8-20	0	
										8-20	0	
Outpatient Clinic											8-28	0
At Home Duracillin	"	9-10	10-11	(Mapharsen and Bismuth)	9-2	0	10-11	10-15	190	9-7	8	
										10-1	163	
"	"	10-11	10-15	1,500,000 q.3 hr.	10-15	8.70	10-22	11-1	4 gm. q. 3 hr.	10-11	27	
										10-15	190	
"	"	10-15	11-21	2,100,000 q.3 hr.	11-5	34.50	10-22	11-1	4 gm. q. 3 hr.	10-22	1	
										11-5	5	
"	"	11-22	11-25	4,200,000 q.3 hr.	11-15	8.70	11-1	11-6	6 x daily	11-15	0	
										11-19	0	
"	"	11-26	12-12	2,100,000 q.3 hr.	11-22	34.50	12-3	12-8	4 gm. q. 3 hr.	11-22	28	
										11-26	30	
"	"	12-13	12-16	1,050,000 q.3 hr.	12-3	4.35	12-10	1-10-49	2 gm. q. 3 hr.	12-3	30	
										12-10	70	
"	"	12-22	1-24-49	1,200,000 q.3 hr.	12-6	34.50	12-10	1-10-49	2 gm. q. 3 hr.	12-10	90	
										12-13	45	
"	"				12-27	2.17	1-21	1-28	2 gm. q. 3 hr.	12-17	95	
										12-20	90	
"	"				12-31	4.35				12-27	180	
										1-7-49	200	
"	"				1-10-49	2.17				12-31	61	
										1-21	130	
Third Admission												
Duracillin		1-31	2-2	1,200,000 q.3 hr.	1-31	16.0				1-31	50	



were obtained in this period of streptomycin treatment (Figure 1). Another determination of streptomycin sensitivity from the positive culture of October 16 showed marked increase in resistance with growth not inhibited by 25 micrograms per cc. Later determinations of streptomycin sensitivity showed growth not inhibited by 250 micrograms per cc. Also from the culture of October 16, a retest of penicillin sensitivity showed inhibition of growth by 1.25 units per cc. of culture medium.

Clinically there was little improvement in this initial treatment period. For nine days after admission, the patient had fever up to  $100.8^{\circ}$  F. daily accompanied by chilly sensations and intermittent headache. The temperature then became normal. On the third hospital day a typical splinter hemorrhage appeared in the right index nail bed. On October 5 there was an episode of severe upper left quadrant abdominal pain with transient low fever attributed to splenic infarction.

Treatment with penicillin was resumed on October 24 and was continued to November 7. The blood culture remained positive. The first penicillin blood level, done in this period, was obviously therapeutically inadequate (Figure 1). From November 7 to 13 streptomycin alone was again given and the blood culture remained positive (Figure 1). An additional 12 Gms. of streptomycin was given in doses of 0.33 Gm. every four hours, with blood levels of 38.4 micrograms per cc. on two occasions.

At this time the patient was anemic in spite of repeated small blood transfusions. A single petechia in the conjunctiva was the only further embolic phenomenon. Though she showed definite clinical improvement in appetite and feeling of well being, she complained of abdominal pain, and there was frequent gaseous distention of the abdomen. On November 9, the patient developed sudden nocturnal tachycardia with irregular rhythm. The apical pulse rate was 160 per minute with a pulse deficit. The clinical diagnosis of auricular fibrillation was made, and the patient was digitalized rapidly with puriodigin which was then continued in maintenance dosage of 0.2 mg. daily. Sinus rhythm soon returned following digitoxin, and auricular fibrillation did not recur.

On November 13, penicillin was resumed and was continued without interruption until January 20, 1948. In this period, caronamide\* was first added to the treatment program (Figure 1). Repeated determinations of penicillin sensitivity of the infecting organism on December 1 and 15 again showed growth inhibited by 1.25 units per cc. The blood culture remained positive with a few organ-

isms per cc. until the penicillin dosage was increased on December 24 to 10,000,000 units daily. Blood samples for penicillin level determinations were taken in the period from 9:00 a.m. to 10:00 a.m. daily in nearly all instances, usually within 30 minutes after the last penicillin injection. Representative blood levels for each period of penicillin treatment are indicated (Figure 1). From December 24 to January 20, very high penicillin blood levels were obtained due to the massive dose of penicillin and to the simultaneous administration of caronamide. The data do not permit exact correlation between penicillin blood levels and caronamide administration; however, it is obvious that the penicillin level became lower after caronamide was discontinued because of nausea and skin rash, on January 12 (Figure 1). The blood culture became negative on December 30 and remained so until January 30, 1948, the last culture prior to dismissal February 4.

Beginning late in December the patient showed steady clinical improvement. She remained afebrile. No further embolic phenomena occurred. Appetite improved steadily. On January 14, two teeth with enamel defects were extracted under local anesthesia. From the roots of the extracted teeth, *Str. fecalis* was grown in culture. The organism exhibited the same cultural characteristics as that previously isolated from the blood. On January 21 gynecologic examination by Dr. L. A. Calkins was negative for pelvic disease.

On February 4, 1948, the patient was dismissed, primarily for reasons of expediency to combat anxiety and depression. She was to be followed by twice weekly visits to the Outpatient Clinic. At the time of dismissal she was free of symptoms except for residual weakness. The spleen was not palpable. The heart murmur remained unchanged. She had gained nine pounds in weight. Dismissal medication was puriodigin 0.2 mg. daily and multi-vitamin capsules.

*Interval Note:* One week after dismissal the patient developed sudden urinary frequency with urgency and urethral burning. Examination in the Outpatient Clinic was unchanged except for temperature of  $99^{\circ}$  F. and two small ulcerated areas in the skin of the left arm and thigh at sites of penicillin injections. Swab cultures of these skin areas were negative. Urinalysis showed a trace of albumin. Because of misunderstanding, blood culture was not obtained until February 12, the 23rd day after cessation of treatment, when it was again positive for *Str. fecalis* (Figure 1). A retest of the sensitivity of the organism from this culture showed growth was inhibited by 12.5 units of penicillin per cc.

#### Second Admission

*Readmission Note:* The patient was admitted to the hospital the second time on February 17, 1948.

\*'Staticin' Caronamide (4'-carboxyphenylmethanesulfonamide) tablets and 'Cremostaticin' suspension were supplied through the courtesy of Sharp and Dohme, Inc., Philadelphia, Pennsylvania.

Temperature was normal. The pulse rate was 100, regular sinus rhythm. Blood pressure was 95/60. The left pupil was slightly larger than the right. Moderate dental caries was noted. The tonsils were embedded and cryptic. The heart was unchanged from previous examination. The lungs were negative. The spleen was slightly enlarged and not tender. No petechiae were found. The fingers were clubbed. Urinalysis again showed a trace of albumin and there were numerous pus cells per high power field. A urine culture was negative. Red blood cell count and hemoglobin were within normal limits. White blood cell count showed slight leukocytosis. Routine blood chemistry was within normal limits.

*Clinical Course and Treatment:* Treatment with penicillin and caronamide was resumed on admission and was continued without interruption until March 10. The daily dose of penicillin was increased to 16,000,000 units. From February 20 to March 10 penicillin was first given by continuous intravenous drip, 16,000,000 units per 24 hours in 1500 cc. of five per cent glucose in normal saline. There was marked increase in the penicillin blood levels in this period (Figure 1). The blood culture was negative on February 18, and remained negative until March 6 (Figure 1). It is noteworthy that the blood culture then became positive again while the patient was receiving intravenous penicillin. On March 10 treatment was interrupted because of the lack of penicillin. At this time the patient had painful phlebitis in both arms from the intravenous infusions. Her clinical condition had remained otherwise stationary.

Additional surgical procedures were undertaken in this period in an attempt to remove any possible extracardiac focus of blood stream infection. Between February 23 and March 1, complete dental extraction was done in four stages under pentothal sodium anesthesia without untoward reaction. Cultures from the roots of several of the extracted teeth were positive for *Str. fecalis*, exhibiting the same cultural characteristics as the organism from the blood. Cholecystography in the first hospital admission had shown numerous small gallstones. In an attempt to evaluate the possibility of gallbladder infection, duodenal drainage had been done in January, and clear golden bile was obtained which was negative on culture.

On March 4 cholecystectomy was performed under pentothal sodium and curare anesthesia. Convalescence was uneventful. Intravenous penicillin therapy was discontinued briefly during the time of operation and was then resumed. It has been mentioned that the blood culture of March 6, two days after operation, was again positive. The pathologic diagnosis of the removed gallbladder was "acute and chronic cholecystitis and cholelithiasis."

Cultures of the wall and mucosa of the organ were negative. Abdominal exploration at the time of operation showed four to five large scarred areas on the surface of each kidney. The spleen was moderately enlarged, not scarred, with adhesions to the lateral abdominal wall.

Treatment with penicillin and caronamide was once more resumed on March 23. This was continued to May 9 in smaller daily dosage than in the previous period because of uncertainty of supply. Alternating intramuscular and intravenous routes were used (Figure 1). The blood culture remained positive for a few organisms per cc. From May 10 to May 31 the dose of penicillin was again increased, to 10,000,000 units daily intravenously. Despite the high penicillin blood levels in this latter period, without use of caronamide, the blood culture remained positive (Figure 1). By May 31, when treatment was temporarily once more interrupted, the patient had received a total of 1,150,600,000 units of crystalline penicillin G.

Adjunctive therapeutic measures requiring comment were used in the above period of penicillin treatment. Repeated penicillin sensitivity tests in March of the infecting organism had shown inhibition of growth by 3.12 units per cc., an increase in sensitivity from the time of the second admission. On March 24 the sensitivity test was again done with temperature at 40° C instead of the usual 37° C. The test showed no increase in sensitivity of the organism at the higher temperature. Nevertheless, between April 5 and 20, the patient was given six artificial fever treatments by inductothermy in conjunction with penicillin and caronamide. She received a total of 38½ hours of fever 104° F or above, which included 19 hours fever of 105° F. There was no significant improvement from fever therapy, and no untoward reaction except for several hours malaise following each treatment, and the appearance of a typical Osler's node in one thumb after the first treatment.

Also in April the patient was given the first course of specific enterococcus bacteriophage therapy\* intravenously according to the methods of MacNeal.<sup>3</sup> In vitro tests in the laboratory of preparation showed the organism "completely sensitive" to the prepared bacteriophage, and growth was inhibited by five units of penicillin per cc. Bacteriophage was given intravenously in three separate courses, from April 27 to August 3, in conjunction with penicillin therapy, and to the point of febrile reactions in the second and third courses without producing any demonstrable benefit.

At this point in the patient's treatment an addi-

\*Bacteriophage was supplied by the Department of Bacteriology of the New York Post-Graduate Medical School and Hospital, 303 East 20th St., New York, N. Y., through the courtesy of (Miss) Anne Blevins, Assistant in Bacteriology.



tional supply of penicillin\* in the repository form became available, thus making continuation of treatment possible. On June 8 treatment was resumed with duracillin and caronamide (Figure 1). From June 8 to 30 the patient received from 2,400,000 to 9,600,000 units of procaine penicillin daily in divided doses. Caronamide was given in higher dosage than previously. Although the blood culture remained positive, by the end of June there was a significant decrease in the number of infecting organisms. From July 1 to 18 the largest prolonged daily dose of penicillin, 19,200,000 units, was used. The extremely high penicillin blood levels attained during this time are considered due to the massive dose of penicillin and the concomitant administration of caronamide. On July 19 the daily penicillin dose was decreased to 18,000,000 units which was continued until August 21 (Figure 1).

As a reflection of the intensification of treatment, the blood culture on July 6 was negative and cultures remained negative until dismissal on August 22 (Figure 1). Though the patient was quite small, and the available muscle mass was limited, she tolerated well the injections of eight to 10 cc. of duracillin every three hours. There was little pain at the time of injection and minimal tissue induration afterward. Thus the same sites in the buttocks and thighs were used in rotation repeatedly. In the later weeks of this period of procaine penicillin therapy, the patient developed marked coarse tremor of the head and extremities, aggravated by exertion, and partially controlled by small doses of sodium pentobarbital. The tremor, accompanied by intermittent nausea and persistent sinus tachycardia, was attributed to procaine reaction from the massive doses of duracillin.

On July 14, in a further attempt to remove a possible focus of infection, tonsillectomy was performed under local anesthesia. *Str. fecalis* had previously been recovered on two attempts from swab culture of the tonsils. The same organism, exhibiting cultural characteristics identical with those of the blood organism, was recovered in culture from the tonsillar tissue. Convalescence from this operation was complicated by severe post-operative bleeding requiring bronchoscopic aspiration. Sutures were placed in the tonsillar fossae a few hours after operation, and the patient rapidly regained her previous status.

In the entire period of hospital stay in the second admission, there were only occasional temperature elevations to 99 or 100° F., associated chiefly with phlebitis from intravenous penicillin therapy. On August 22, 1948, the patient was again dismissed

from the hospital, to be followed in the Outpatient Clinic. She was afebrile, ambulatory but very weak, with marked coarse generalized tremor which was exaggerated by muscular effort. The heart examination was unchanged. The spleen was not palpable. Clubbing of the fingers and toes had nearly disappeared. Dismissal prescriptions were a high protein, high caloric diet, purodigin 0.2 mg. daily, and vitamin and iron supplements.

*Outpatient Clinical Course and Treatment:* The blood culture, negative from July 6 to September 2, was again positive in the specimen taken at the outpatient visit of September 7, 17 days after cessation of penicillin therapy. Growth was inhibited by 3.12 units of penicillin in vitro. At this time additional penicillin was not available. From September 10 to October 11 the patient was treated with twice weekly injections of mapharsen 0.03 Gm. intravenously and thiobismol 0.1 Gm. intramuscularly. Though in vitro tests of sensitivity of the *Str. fecalis* to these drugs showed inhibition of growth by very small concentrations, there was no clinical improvement. The number of infecting organisms in the blood increased (Figure 1). Muscular weakness and tremor slowly improved. Anxiety and depression also improved with the patient's being at home.

After a session of detailed instruction to the patient's family, treatment with duracillin was resumed at home on October 11. The injections were given by a relative who quickly proved herself a capable assistant. A record of the date, hour and dose of each injection of duracillin was kept and was reviewed by the examiner at the twice-weekly outpatient visits. Though an occasional dose of penicillin was unavoidably omitted, treatment was carried out essentially as directed. From October 11 to 15, 7,500,000 units daily were given in five divided doses. The total duracillin given in this four-day period, and in subsequent periods, was calculated from actual count of the individual injections which the patient received (Figure 1). The dose of duracillin was increased on October 15 to 10,500,000 units daily which was continued until November 21. In this period caronamide was again given intermittently, but was taken approximately one-half as often as prescribed because of nausea (Figure 1). The infection again responded to duracillin with diminution in the plate count of the organisms in the blood cultures, and two negative cultures were obtained in mid-November (Figure 1).

The penicillin blood levels throughout this period of treatment at home were determined on blood samples taken approximately 14 hours after the last dose of duracillin. This interval occurred because the patient took her five daily injections through

\*Duracillin-in-oil" (crystalline procaine penicillin G in oil, Lilly) for the treatment of this patient was generously supplied through the courtesy of the Eli Lilly Co., Indianapolis, Ind.

the day, and on the day of outpatient visits did not receive the first morning injection. On November 22 the dose of duracillin was doubled for a brief interval, the 14 cc. being given in two sites. With 21,000,000 units daily, the patient quickly developed nervousness, tremor, and tachycardia; and, after 84,000,000 units in four days this dosage was abandoned (Figure 1). The blood culture at this time was again positive as were all subsequent cultures. The duracillin dosage was again 10,500,000 units daily from November 26 to December 12. The infecting organism continued to show inhibition of growth in 3.12 units of penicillin per cc. On December 13, penicillin dosage was decreased by necessity of supply to 5,250,000 units daily. On December 22, the dose was slightly increased to 6,000,000 units daily. Following the decrease in penicillin dosage, there was a decrease in the blood levels, and an increase in the number of organisms in the blood (Figure 1).

The patient's clinical condition did not change materially during the period of outpatient care from August, 1948, to January, 1949. In the first month, despite recurrence of bacteremia, she slowly gained in strength and weight, and tremor of the head and extremities gradually improved. There was often fever of 99 to 100 F. Tachycardia persisted with pulse rate varying from 102 to 120 per minute. The loud, harsh, apical systolic murmur remained unchanged. There was no evidence of heart failure. Clubbing of the fingers did not recur until the last few weeks of illness. The spleen remained slightly enlarged and was not tender. Digitalis preparations in maintenance dosage, dietary supplements, and a high protein diet were continued. Routine laboratory examinations in the period of outpatient care showed persistent slight to moderate secondary anemia, slight leukocytosis, a trace of albumin in the urine with microscopic examination showing a few pus cells.

In early September, 1948, an attempt was made to give the patient sulfonamide preparations which she soon refused to take because of nausea. In October complete x-ray examination of the gastrointestinal tract was negative. A short time later cultures of the stool were twice positive for *Str. fecalis*. The isolated organism showed the same growth and cultural characteristics as the organism previously isolated from the blood, teeth, and tonsils. By early November the patient had gained five pounds over her weight at the time of dismissal from the hospital in August. A further attempt at adjuvant therapy was made with sulfonamides but was abandoned after three days because of recurrent cramping abdominal pain and nausea. The patient continued to take the prescribed caronamide only intermittently because of recurrent nausea.

At the outpatient visit on January 21, 1949, the fingers were again clubbed and there were two Osler's nodes in the fingers of the left hand. On January 24 the patient's supply of duracillin was depleted. She was unable to return to the Outpatient Clinic because of bad weather until January 28. Examination at this time showed no change. Late in January the infecting *Str. fecalis* was tested for sensitivity to aureomycin and growth was inhibited in vitro by 0.78 micrograms per cc. An attempt was being made to procure aureomycin for the continuation of treatment at the time of the third admission.

#### Third Admission

*Readmission Note:* At 11:00 p.m. on January 29, 1949, the day following the last outpatient visit, the patient developed sudden excruciating headache which was not relieved by aspirin. Two hours later the patient's husband was awakened by a thud and found her on the floor where she had fallen from bed. She was unable to talk but remained conscious. A few hours later there was noticeable weakness of the right arm and leg. In the afternoon of January 30 the patient was examined at home by a member of the resident staff and was readmitted to the hospital.

When examined in the hospital, the patient was afebrile, conscious and exhibited complete motor aphasia with comprehension of voice registered by facial expression. Pulse rate was 100 per minute. Blood pressure was 110/70. The pupils were equal and normally reactive to light. There was paralysis of the lower right side facial musculature with drooling of saliva from the right side of the mouth. The optic fundi were negative. The neck was supple. The head was held turned to the left. The lung fields were clear, and the cardiac murmur was unchanged. There was weakness of the right arm and leg. The tendon reflexes were bilaterally equal and no pathologic reflexes were demonstrated.

The laboratory examination showed moderate secondary anemia, moderate leukocytosis with increase in polymorphonuclear leukocytes, a few pus cells in the urine, blood N.P.N. and sugar within normal limits, and elevated red blood cell sedimentation rate. The blood culture remained positive.

*Clinical Course and Treatment:* The clinical diagnosis of this final episode in the patient's illness was cerebrovascular accident, embolism of the left cerebral hemisphere with involvement of the internal capsule and speech area. On January 31 duracillin in token dosage was resumed (Figure 1). Supportive treatment with oxygen, parenteral fluids, and papaverine was begun on admission. On February 1, the patient showed brief improvement after the third of four stellate ganglion blocks with novocaine was given. She was somewhat more alert and muscle



tone in the right arm improved. Speech did not return. In the evening of February 1, the temperature rose to 101.4 F. In the afternoon of February 2, the patient became stuporous then lapsed into coma. A few hours later there was a brief episode of two separate generalized convulsions following which the patient expired quietly.

#### Autopsy

Complete autopsy was performed two hours after death by the resident staff of the Department of Pathology. The significant changes were limited to the heart, lungs, spleen, kidneys, and brain.

The heart was not enlarged. In the anterior wall of the left ventricle was a fibrous patch of scar tissue one cm. in diameter. On the endocardium of the auricular side of the mitral valve were numerous soft, stringy vegetations approximately 0.2 cm. in diameter and one cm. in length. The mitral valve leaflets were thickened on the free edges with nodular small vegetations without ulceration. Similar nodular vegetations were present at the base of the valve in the auricular endocardium. In the lung bases were multiple areas of slightly elevated, reddish-brown infiltration a few centimeters in diameter. The spleen was slightly enlarged, and a large contracted scar was present on the superior surface of the organ. There was marked stellate pitted scarring of the surface of both kidneys with adherence of the capsule in the scarred areas. The meninges of the brain were infiltrated with clotted blood in the region of the left frontal and temporal lobes, cerebellum and pons. An area of encephalomalacia four cm. in diameter was found in the anterior left cerebrum involving the anterior portion of the left basal nuclei. The area was infiltrated with edema fluid and clotted blood with a firm nodular central portion approximately two cm. in diameter. From this central area blood was traced into the left lateral ventricle and along the sylvian fissure to the base of the brain. The choroid plexus was covered with clotted blood. The lateral ventricles were not dilated. The cerebellum and pons, medulla and cranial nerves presented no gross intrinsic changes.

The histologic changes in the heart were limited to the myocardium, endocardium, and mitral valve. Sections of the myocardium showed areas of fatty change, granular degeneration, and segmentation and fragmentation of the muscle cells. A section through the area of myocardial fibrosis showed fibrous scar tissue and moderate inflammatory reaction. In sections of the mitral valve there was dense fibrosis and superimposed recently-formed fibrous tissue with numerous small blood vessels; the valve tissue was infiltrated with leukocytes, predominantly polymorphonuclear. On the surface of the valve were fibrinous masses containing bacteria

of the coccus group. In sections of the lungs some of the alveoli and especially those near the bronchi contained masses of polymorphonuclear leukocytes. In areas where the leukocytes were numerous, the lung framework was indistinct. Sections of the spleen showed irregular thickening of the capsule and a dense fibrous scar extending from the surface into the substance of the organ with collections of lipid cells in the fibrous area. The Malpighian bodies showed hyperplasia of the reticulo-endothelial elements. In sections of the kidneys there were areas of coagulation necrosis extending from the surface into the renal tissue with surrounding polymorphonuclear leukocytic infiltration. Some kidney tubules contained hyaline casts, especially prominent in the areas of necrosis. Sections of the brain showed masses of red blood cells in the meninges; also, small refractile brown pigment granules and scattered polymorphonuclear leukocytes. In sections of the area of gross hemorrhage there was destruction of the normal brain architecture, infiltration with polymorphonuclear leukocytes, destruction of blood vessel walls, and wide areas of hemorrhage into the surrounding brain substance.

The pathologic diagnosis was acute and chronic mitral valvulitis and mural endocarditis; focal acute and chronic myocarditis; healed infarct of the spleen; acute splenitis; recent infarct of the kidney; embolic nephritis; pulmonary congestion and bronchopneumonia; and, cerebral hemorrhage involving the left fronto-temporal lobes, left internal capsule, and lateral ventricle.

Bacteriologic cultures taken at necropsy of the spleen, brain, mitral valve, and vegetations on the valve were all positive for *Str. fecalis* with the same cultural characteristics as the previously-isolated organism. Culture of the heart's blood was negative.

#### Discussion

Cumulative experience in the treatment of sub-acute bacterial endocarditis with penicillin has shown that the determining factors in the success or failure of treatment are: the early administration of adequate amounts of penicillin, the resistance of the infecting organism to the antibiotic, the critical nature of embolic phenomena, and the degree of cardiac damage, both valvular and myocardial, which precedes, accompanies and follows treatment.<sup>1, 11</sup> All investigators agree that the *Str. fecalis* is inherently resistant to penicillin.<sup>3, 6</sup> It is also emphasized<sup>6, 12</sup> that in vitro resistance of the infecting organism does not always indicate the clinical response to penicillin; therefore, intensive treatment despite high in vitro resistance is mandatory.

While in retrospect we regret not having given our patient more penicillin initially, the literature records many instances of later successful treatment

following inadequate initial dosage.<sup>6</sup> It is clear that resistance of the organism to penicillin may increase in some patients during course of therapy.<sup>11</sup> Although the organism in our patient showed rather marked fluctuations in sensitivity the overall resistance was not markedly changed, discounting the initial resistance to 25 units of penicillin per cc. which was not confirmed by later tests.

At no time in the course of therapy did the patient present signs of cardiac failure. This factor has been responsible for failures of treatment in every sizeable series of cases reported. In some instances intractable heart failure, due to valvular deformity and myocardial damage, has resulted in death when the infectious process was apparently arrested. Usually, however, death from cardiac failure is accompanied by clinical or autopsy evidence of the persistence of infection.<sup>11</sup> Death in the case reported must be attributed to the terminal cerebral embolic episode due to persistent bacteremia, due in final analysis to inadequate treatment.

In view of the repeated rapid return of bacteremia following cessation of therapy, and recovery of the infecting *Str. fecalis* from the teeth, tonsils, and stool during the course of treatment, it is doubtful whether any amount of penicillin would have produced arrest of the infection in this patient.

Other than the occurrence of thrombophlebitis when crystalline penicillin was used intravenously and the nervousness, tachycardia and tremor attributed to procaine reaction in the period of treatment with duracillin, no untoward effects of penicillin were observed. Roston and Stollerman<sup>13</sup> have recently reported the exclusive use of procaine penicillin in a small series of cases successfully treated. These authors found no local or systemic reactions to procaine penicillin given in doses of 450,000 to 600,000 units once or twice daily for as long as eight weeks. It is of interest that two of their six patients had been treated initially with short, massive courses of crystalline penicillin G with prompt relapse on cessation of treatment. Both of these patients were re-treated successfully with the lower, rather moderate doses of procaine penicillin mentioned.

Caronamide<sup>14</sup> was given to the patient in an attempt to secure higher, more effective penicillin blood levels. The prolonged use of this agent, to block the renal tubular excretion of penicillin, has been reported by others<sup>4, 15</sup> in the management of subacute bacterial endocarditis due to *Str. fecalis*. Nausea and vomiting, as in the case here reported, have occurred frequently, and at times have been of such severity as to preclude further use of the drug. Eisman et al<sup>15</sup> observed one instance of acute glomerulonephritis at autopsy, in addition to the usual findings in subacute bacterial endocarditis. They considered this reaction as probably not caused by

caronamide. The drug was administered to our patient for 158 days during hospitalization, in numerous courses varying from a few to 36 days. In addition, the patient took the drug approximately one-half as often as prescribed during the period of home and outpatient treatment. Except for the initial brief course (Figure 1), caronamide was given in therapeutic doses. The drug was repeatedly discontinued because of nausea and vomiting, but was also taken for long periods without distress. In January, 1948, a papular skin rash of brief duration was attributed to caronamide. No other toxic effects were recognized. The data presented allow the conclusion that caronamide did at least enhance the penicillin blood levels during treatment with crystalline penicillin G (Figure 1).

Certain additional laboratory findings are of interest and may be mentioned. Blood platelet counts on two occasions, and determinations of bleeding time and clotting time (tube method) were within normal limits. Urea clearance determinations done on five occasions from September, 1947, to August, 1948, gave results ranging from 66 and 75 per cent of average normal function in the first two tests to 56 per cent in the last. A single phenolsulfonphthalein test in July, 1948, showed 25 per cent excretion of the dye in two hours. Renal damage has been shown to be a factor in depressing the tubular excretion of penicillin, with elevation of the blood concentration of penicillin, in some patients with subacute bacterial endocarditis.<sup>16</sup>

#### Summary

An unusual case of subacute bacterial endocarditis is presented. Therapeutic failure resulted despite the use of massive amounts of penicillin and caronamide for prolonged periods. The infecting organism was a resistant *Str. fecalis*. The organism produced persistent bacteremia, and was recovered in culture from various tissues during the course of therapy and from the affected mitral valve at autopsy. Significant factors in the management of the disease are discussed.

#### Bibliography

1. Baehr, G. and Gerber, I. E.: Penicillin Treatment of Subacute Bacterial Endocarditis, in Dock W. and Snapper, I. *Advances in Internal Medicine*, New York, Interscience Publishers, Inc., 1947, Vol. 2: 308-349.
2. Glaser, R. J., The Treatment of Subacute Bacterial Endocarditis, *Am. Pract.*, 2: 436-442, Mar., 1948.
3. MacNeal, W. J., Blevins, A., and Poindexter, C. A., Clinical Arrest in Enterococcal Endocarditis, *Am. J. M. Sc.*, 211: 40-50, Jan. 1946.
4. Leaman, W. G., Wikingson, M. B., Webster, M. B., and Shaw, C. C., Caronamide and Penicillin in Subacute Bacterial Endocarditis Due to *Streptococcus Faecalis*, *Ann. Int. Med.*, 30: 646-654, Mar., 1949.
5. Hein, G. E. and Berg, B. M., Recovery from Subacute Bacterial Endocarditis (*Streptococcus Fecalis*), *Am. Heart J.*, 38: 433-437, Sept., 1949.
6. Clark, W. H., Bryner, S., and Rantz, L. A., Penicillin Resistant Non-Hemolytic *Streptococcal* Subacute Bacterial Endocarditis, *Am. J. Med.*, 4: 671-689, May, 1948.
7. Pearsall, H. R., Pillow, R. P., and Wood, J. E., Jr., Observations on the Treatment of Subacute Bacterial Endocarditis with Penicillin and Streptomycin, *Am. Pract.*, 2: 497-506, April, 1948.
8. Guss, J. H., Successful Treatment of Subacute Bacterial Endocarditis with Streptomycin, *Am. Heart J.*, 35: 662-664, Apr., 1948.



9. Bergey's Manual of Determinative Bacteriology, ed. 6, Baltimore, Williams and Wilkins Co., 1948.
10. Evans, A. C. and Chinn, A. L., The Enterococci; with Special Reference to Their Association with Human Disease, J. Bact., 54: 495-512, October, 1947.
11. Tumulty, P. A., and Harvey, A. Mc., Experiences in the Management of Subacute Bacterial Endocarditis Treated with Penicillin, Am. J. Med., 4: 37-54, Jan., 1948.
12. Herring, A. C., and Davis, W. M., Penicillin Treatment of Subacute Bacterial Endocarditis, J. A. M. A., 138: 726-730, Nov. 6, 1948.
13. Roston, E. H., and Stollerman, G. H., Procaine Penicillin in

the Treatment of Subacute Bacterial Endocarditis, Am. Pract., 4: 102-106, Oct., 1949.

14. Shaw, C. C., Boger, W. P., Crosson, J. W. et al. Enhancement of Penicillin Blood Levels in Man by Means of a New Compound, Caronamide, Am. J. Med., 3: 206-210, Aug., 1947.
15. Eisman, S. H., Kay, C. F., Norris, R. F., and Boger, W. P., Caronamide as an Adjuvant to Penicillin in the Treatment of Subacute Bacterial Endocarditis, Am. J. M. Sc., 217: 62-70, Jan., 1949.
16. Bryner, S., Clark, W. H., Randall, E., and Rantz, L. A., Renal Tubular Excretory Capacity for Penicillin in Health and in Subacute Bacterial Endocarditis, Am. J. Med., 5: 202-209, Aug., 1948.

## Primary Neurofibroma of the Vagina: A Case Report

James W. Norris, M.D.,\* and Jack R. Cooper, M.D.\*\*

Columbus, Ohio

Kansas City, Kansas

Solid benign tumors of the vagina are relatively rare. Wharton<sup>12</sup> reported 260 vaginal tumors, of which 38 were solid and benign, to be represented in 47,500 specimens studied. Stander<sup>9</sup> tabulated a consecutive series of 9,226 tumors found in women, of which 2,648 were of uterine origin and only 54 arose from the vagina.

The American literature has been reviewed for the past 12 years and no records or case reports on primary neurofibroma of the vagina were found. The extreme rareness of this tumor, the diagnostic problems encountered, and the association of the tumor with pregnancy encourages the following report.

Tumors may occur anywhere in the vaginal wall. Neurofibromas in this location may grossly appear to be well encapsulated and benign. However, their cellular structure may question benignity without definitely supporting a diagnosis of malignancy. This should place the clinician on guard.

Symptoms produced by vaginal tumors are influenced by size, position, degenerative changes and mucosal ulceration. They may consist of dyspareunia, interference with normal coitus, bloody or purulent discharge, difficulty in taking a douche, or difficulty and/or frequency and urgency of urination. Encroachment of the tumor upon the urethra with partial or complete urinary obstruction and occasional urinary retention has been reported.<sup>8</sup> Examination then will reveal a mass protruding from one of the vaginal walls. Ulceration and infection of the vaginal mucosa can be responsible for vaginal bleeding or purulent discharge.<sup>11</sup>

According to Te Linde,<sup>11</sup> the important things to bear in mind in a differential diagnosis are the possibilities. Mistaken diagnoses of cystocele, urethrocele, prolapsus uteri and vaginal cyst have been made. A careful pelvic examination is usually suf-

ficient to make a reasonably certain diagnosis, but if the mass is in the anterior vaginal wall, a urological examination may be a deciding factor.

The treatment of vaginal tumors is complete surgical excision.<sup>11</sup> If the tumor is in the anterior or anterolateral vaginal wall, a retention catheter should be inserted as a guide to safeguard the urethra and bladder neck during the dissection. If it is in the lateral vaginal wall the vesicovaginal plexus of veins may be encountered and give rise to considerable hemorrhage. Great care should be taken to maintain a dry operative field and carefully obliterate all dead space. In the presence of ulceration, the incision should be made through normal mucosa to avoid placing approximating sutures through infected tissue. The pre- and postoperative use of astringent douches, such as potassium permanganate (1:4000) or compound zinc sulfate, supplemented with chemotherapy or antibiotics, will discourage infection in both phases. During the surgical phase, the use of fine chromic catgut will encourage first intention healing.

### Case No. 481037

A 33-year-old Negro female, para ii, gravida iii, abortus 0, presented herself during the sixth month of pregnancy for prenatal care. Her pregnancy was normal, but since the birth of her second child 16 months earlier, the following symptoms had persisted: occasional urgency and frequency of urination, mild dyspareunia, vaginal discharge and some intermenstrual bleeding.

*Physical Examination:* The findings were consistent with a pregnancy of six and one-half months. A 10 x 12 cm semisolid mass, resembling a Gartner's duct cyst, protruded from the right anterolateral vaginal wall about four to five cms below the right fornix. The tumor increased moderately in size and almost filled the midvagina at term.

*Delivery:* A difficult midforceps, axis-traction delivery, from an LOA position was performed.

\*Clinical instructor in Gynecology and Obstetrics, Ohio State University School of Medicine, Columbus, Ohio.

\*\*Resident in Neurosurgery, University of Kansas Medical Center.

Through displacement of the tumor to the right by the aid of an assistant's hand, the delivery was carried out on the left side of the vagina. On completion of the third stage of labor, the tumor was repeatedly aspirated without success.

**Biopsy:** Initially deferred by fear of infection, a biopsy was taken during the second postpartum week, and the diagnosis of malignant fibrosarcoma returned. The case was then submitted to Tumor Conference, where immediate surgical extirpation was recommended. A dirty, gray, slough with capillary bleeding was already apparent over the surface of the tumor, and preoperative preparation with astringent douches was begun.

The patient was readmitted to the hospital five weeks following parturition, at which time the following findings prevailed:

**Physical Examination:** The tumor now measured about 5 x 8 cms. It was attached to the right antero-lateral vaginal wall on a sessile base, and seemed to extend deep into the perivaginal tissues. There was no infiltration or induration of the adnexa. The uterus was anterior, subinvolved, and freely movable.

**Laboratory Examination:** Urinalysis normal; red cell count 5.22 million; white cell count 5,650, with a normal differential; sedimentation rate (Cut-

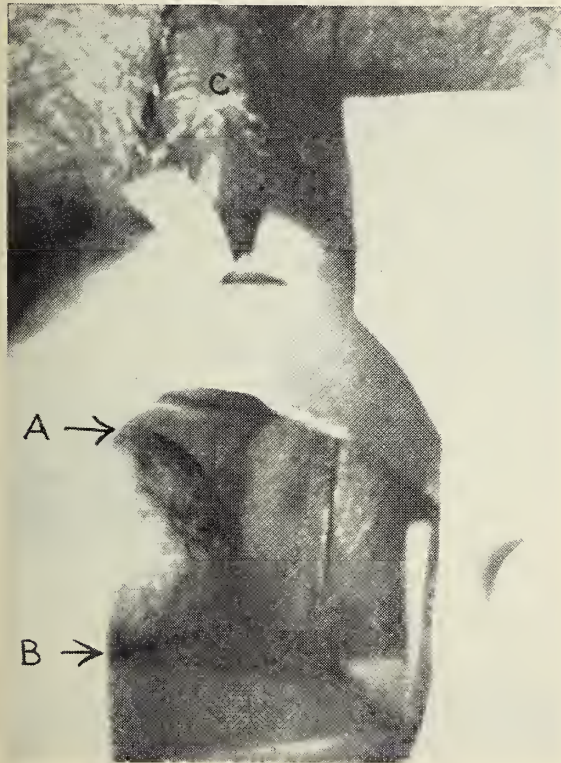


Figure 1. Neurofibroma in situ projecting from right lateral wall of vagina, attachment being represented by arrows at A. and B. C. represents clitoris.

ler) 10 mms in 60 minutes; x-ray and fluoroscopy of the chest and barium studies of the gastrointestinal tract revealed no evidence of pathology.

**Operation:** With a Foley catheter in place, an incision over the antero-superior pole of the tumor, parallel to the long axis of the vagina, and through normal mucus membrane was made. A cleavage plane was established, the tumor mobilized, separated from the pubo-vesico-cervical fascia and



Figure 2. Neurofibroma after removal. External surface represented on left and cut section on right.

enucleated. The fascia was reapproximated and all dead space obliterated. Redundant and secondarily infected mucosa was excised, a drain inserted, and the wound closed with interrupted sutures of fine chromic catgut. A tight, iodoform vaginal pack was inserted for 48 hours and the catheter left in place until the fourth postoperative day.

**Pathology:** Examination of the tumor created some controversy until multiple and specially stained sections could be studied and the case submitted to Pathology Conference. Grossly it consisted of a firm, grayish-white, homogenous mass, measuring 5 by 8 cms. The microscopic pattern was not consistent with a malignancy, but the sections appeared more cellular than the usual benign lesion of this type. The qualified diagnosis, "neurofibroma of the vagina of increased cellularity," therefore seemed more appropriate.

**Postoperative Course:** There were no complications and the wound healed per primum. The case was referred again to Tumor Conference, where appropriate internal and external irradiation therapy was recommended, and then initiated until the pathology report had returned. With malignant potentialities in mind, the patient was re-examined at three month intervals, and was last seen 14 months postoperatively. No evidence of local recurrence or late metastasis could be found.

Neurosurgical consultation was obtained during the postpartum period for other evidence of neurofibromatosis. None was found, but attention was called to the presence of pigmented, "cafe-au-lait"



marks<sup>3</sup> distributed over the abdomen, thighs and back, which are believed to be a polytropic expression of the gene for this disease. Likewise, no hereditary background could be elicited.



Figure 3. Photomicrograph of H. & E. section, x100, showing characteristic palisading of nuclei.

#### Discussion

Novak<sup>7</sup> lists several types of solid benign tumors of the vagina, viz: leiomyoma, fibromyoma, fibroma, papilloma and myxoma. To this, neurofibroma may be added. These arise from the Schwann cells of nerve sheaths, with which the pelvis is abundantly supplied. Mintz<sup>6</sup> and others have reported the occurrence of neurofibromas within the urinary bladder, lending support to this possibility in the vagina.

Sarcomatous changes in neurofibromas are not uncommon and have been estimated to be around 12 per cent. Neurosarcomas, when they occur, may initially appear to be benign, only to become more malignant with succeeding recurrences. They frequently metastasize widely before this potentiality is recognized.<sup>1, 4</sup> The responsibility for the decision of malignancy is a serious one. It is complicated by an expanding interest in neoplastic disease and by further evolution of the criteria for this decision.

According to Gates,<sup>5</sup> neurofibromatosis is predominantly inherited as a Mendelian, non-sex-linked, dominant, occasionally skipping a generation, varying in expressivity and displaying a predilection for certain sites, viz: the auditory nerve. Attention has already been directed to the cutaneous pigmentation, which may find expression in generations skipped by the disease. "Cafe-au-lait"

marks, literally coffee-with-milk, are yellowish-brown areas of discoloration, varying in size, shape, shade, and number, distributed over the cutaneous surface of the body.<sup>5,13</sup>

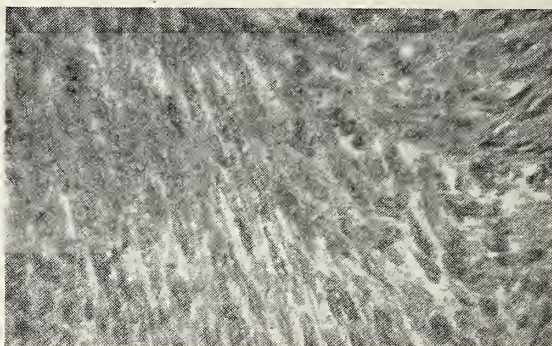


Figure 4. Photomicrograph of H. & E. section, x430.

#### Summary

A case of primary neurofibroma of the vagina is presented for addition to the literature on this subject. The case is discussed from the clinical, surgical, pathological, and hereditary points of view. Some surgical principles, the responsibility of the decision of malignancy, and the association of "cafe-au-lait" marks with neurofibromatosis as a diagnostic aid are stressed.

#### Bibliography

1. Boyd, William: Surgical Pathology, Philadelphia, 1942, W. B. Saunders Co.
2. Curtis, A. H.: Textbook of Gynecology, Philadelphia, 1943, W. B. Saunders Co.
3. Campbell, James B.: A personal communication.
4. Foot, N. C.: Pathology in Surgery, Philadelphia, 1945, J. B. Lippincott Co.
5. Gates, Reginold R.: Human Genetics, New York, 1946, McMillan Co.
6. Mintz, E. R. Pedunculated Neurofibroma of the Bladder, Journal of Urology, 43:268-274, Feb., 1940.
7. Novak, E.: Gynecological and Obstetrical Pathology, Philadelphia, 1947, W. B. Saunders Co.
8. Scott, G. D., and Scott, I. H.: Extrauterine Fibromyoma of the Vagina. Am. Journal of Surgery, 54: 391-394, Nov., 1941.
9. Stander, H. J.: Textbook of Obstetrics, New York, 1945, D. Appleton-Century Co., Inc.
10. Torgerson, T. M. & Rogers, W. E.: Leiomyoma of Vaginal Wall, California and Western Medicine, 53: 177-178, Oct., 1940.
11. Te Linde, R. W.: Operative Gynecology, Philadelphia, 1946, J. B. Lippincott Co.
12. Wharton, I. R.: Gynecology and Female Urology, Philadelphia, 1943, W. B. Saunders Co.
13. Wilson, S. A. K. and Bruce, A. N.: Neurology, Baltimore, 1940, Williams and Wilkins Co.

**MAKE HOTEL RESERVATIONS NOW**

**91st Annual Meeting**

**KANSAS MEDICAL SOCIETY**

**May 15-18, 1950**

**Wichita, Kansas**

# Laboratory Methods of Interest to the General Practitioner\*

Lee H. Leger, M.D.\*\*

Kansas City, Kansas

It is becoming more and more evident that the family doctor must have an interest and a certain familiarity with a large number of laboratory tests and procedures. He must be able to interpret these tests in connection with the clinical findings in his patient. He must be also aware of the shortcomings of these laboratory aids as well as their advantages.

The doctor's use of these aids to diagnosis and therapy probably will not depend upon his training, alertness and experience, but upon the availability and reliability of the tests. The physician may develop certain laboratory facilities of his own or depend upon private, commercial, hospital or governmental laboratories. The discriminate use of these facilities is necessary, if the doctor is to avoid unnecessary waste of his patients' time and money.

Laboratory methods in general are not diagnostic. They should be employed to confirm or develop well-considered clinical impressions, or as a guide to the progress of treatment. The limitations of laboratory aids are many, and blind dependence upon laboratory results, unsupported by sound clinical judgment, will often result in errors of diagnosis.

The doctor must remember that there are inherent errors in most clinical laboratory tests, even when performed with the greatest care. The detailed technique that must be exercised in performing and evaluating such a simple procedure as a red cell count will illustrate the point. The pipette must be properly calibrated. A free flowing drop of blood must be obtained. Exactness in drawing blood to the desired mark and in drawing up the diluting fluid must be observed. The suspension must be agitated until it is uniform. The fluid in the stem of the pipette must be expelled, and material for the count obtained from the contents of the bowl. The counting chamber must be scrupulously clean. Great care must be exercised in filling the chamber, so as to obtain a uniform distribution of cells. The technician must observe a definite method of accepting or rejecting cells on marginal lines, and must count the cells in enough squares to assure a fair average for the entire chamber. With all these precautions, with counts under uniform conditions there will be a variation of 200,000 to 300,000 cells per cubic millimeter.

It is further known that hydration, relation to meals, chilling, local congestion, excitement, nervousness and other factors will further affect the results.

The human element is a further limitation. Error here may be due to normal differences in judgment or opinion, to fatigue, to carelessness, to indifference or to lack of training. Many errors are often due to overload and fatigue.

Another limitation is in interpretation by the clinician. The clinician must know not only the variations of normal values, but also the probable and possible range of abnormal values. Values beyond the range of probability should be accepted with skepticism as to their accuracy. A blood count that varies widely from day to day "just doesn't make sense."

The use of laboratory tests by the family doctor has other limitations. Availability of the facilities is imperative. However, this limitation should not be in quality, but in the variety, complexity, and number of procedures. A few procedures accurately performed are of far greater value than a long list of mistakes. The isolated physician, working with simple equipment, but able to correlate his clinical and laboratory findings, may develop even greater accuracy than the large well equipped laboratories.

The doctor must be aware of all of these limitations. He must also be aware of the changes that are taking place in medicine. A certain amount of laboratory facilities is essential to the practice of medicine. However, on the basis of accuracy, simplicity and availability, the doctor can select those procedures that he can best use to supplement his clinical skill and judgment. It is not possible for me to present an exhaustive list of such laboratory aids. I can only point the way to a few examples and illustrate how they can serve you.

## Blood Examination

I feel that every physician, in this day of modern medicine, should have available the materials and ability to accurately examine the formed elements of the blood. This examination should include routinely a red cell count, white cell count, hemoglobin determination, differential white count and sedimentation rate, and when indicated, facilities should be available to perform a bleeding time, coagulation time, clot retraction, platelet count, reticulocyte count and icterus index.

\*Presented for the Postgraduate Circuit Course, University of Kansas School of Medicine, December 1949 and January 1950.

\*\* Assistant Professor of Medicine, University of Kansas School of Medicine.



These tests alone are informative and they will suffice in most instances to indicate whether a detailed blood study and bone marrow examination are necessary.

In the presence of an anemia, comparison of the hemoglobin and red cell count will suggest whether the anemia is hyperchromic or hypochromic. Abnormal shape of the red cells and jaundice may point to a hemolytic anemia. A low white count, platelet and reticulocyte count may point to a depression of bone marrow activity. The presence of a low white count may indicate a virus pneumonia, undulant fever, influenza, a virus disease, malaria, etc. A differential white cell count will rule out a leukemia; a bleeding time, coagulation time and platelet count may point out the cause of the purpura.

#### Sedimentation Rate

This is one test that no physician can make an excuse for not performing. It costs practically nothing, is simple to run, and tells much. It is not a diagnostic test, except that there are two types of diseases, other than pregnancy, in which the sedimentation of erythrocytes is increased. These are inflammation and malignant growths.

The test has considerable value in the differential diagnosis of many inflammatory lesions. It also is of tremendous value in determining the progress of certain diseases, such as rheumatic fever, arthritis, virus pneumonia, tuberculosis, etc. It has some value in the prognosis in malignancy. In general, if a malignant tumor is removed surgically, the sedimentation rate should return to normal within six weeks if complete removal has been accomplished.

I. *Principle.* Certain diseases change the surface charges of the erythrocytes, which cause them to aggregate. The same principle is responsible for sludged blood.

#### II. General Consideration of the Test

1. The anticoagulant must not shrink the red cells.
2. Blood should stand not more than one hour.
3. There should be no bubbles in the column of blood.
4. The tube must be absolutely perpendicular.

III. *Methods.* Westergren, Wintrobe, and Cutler are all satisfactory.

#### IV. Interpretation

1. Increased rate in tissue breakdown, acute infectious diseases, carcinoma, nephritis, nephrosis, gout, rheumatic fever, rheumatoid arthritis, coronary thrombosis, virus pneumonia and pregnancy.
2. Decreased or normal in hemolytic jaundice, sickle cell anemia and polycythemia.

#### Agglutination Tests

All doctors in this state have available the facilities of the State Public Health Laboratories for agglutination tests. Both positive and negative tests must be received with due regard for the fact that agglutinins or antibodies may be slow in developing or may be non-specific for the disease being studied. Cross agglutination and vaccinations or injected antigens may make these tests difficult to interpret.

The diagnosis of undulant fever from a low positive titre, without a history of an acute febrile episode in the course of the disease, is open to question in my opinion.

#### Interpretation of Results of Agglutination Tests

##### A. Negative Results may indicate that:

1. Patient does not have the infection for which the test was made.
2. The sample of blood was taken before the appearance of agglutinins.
3. A negative test followed within a week or 10 days by a positive test and increasing agglutination titre is definite evidence of an acute infection.

##### B. Positive Results

##### I. Typhoid Fever

(a) Indication of a definite acute infection

1. 3 or 4 plus in 1-80 or higher dilution with O antigen.

(b) Indication of past infection, recent vaccination or carrier

1. 3 or 4 plus in 1-80 or higher dilution with H antigen.
2. Little or no agglutination with O antigen.

II. Dysentery. A positive reaction in 1-80 or higher dilution is diagnostic.

III. Brucellosis. Positive reaction in 1-80 dilution is suggestive. Cholera vaccination and tularemia give cross agglutination. Undulant fever vaccination affects the test.

IV. Tularemia. Positive reaction in 1-40 dilution or higher is diagnostic. Cross agglutination occurs with undulant fever.

V. Rickettsial Diseases. Agglutination tests using 0X19, 0X2, 0XK are considered suspicious if positive in dilution of 1-80, or positive in 1-160 dilution.

##### VI. Heterophile antibody

- (a) Serum sickness and horse serum may give false positives.

## (b) Infectious mononucleosis

1. A titre of 1-56 is considered suspicious and a titre of 1-112 is considered positive if there is no history of the patient having taken horse serum.
2. A titre of 1-224 is considered positive even with a history of the patient having horse serum.

Lymphatic leukemia usually doesn't give a titre above 1-7.

**Serological Tests**

Serological tests are also available through the State Public Health Laboratories. These are not to be accepted on faith alone. Both false negative and positive reactions occur. Two tests of different types should be reported as repeatedly positive before therapy of syphilis is undertaken.

Serological tests are based on the body's reaction to spirochetes. It takes time for specific reagins to be produced to give a positive serological test. One must not expect a person with a primary lesion to have a positive serological test for from two to six weeks after the initial lesion appears. During this early period, only darkfield examination will make a positive diagnosis.

The new treatments of syphilis have made some difference in the interpretation of serological tests. Serial quantitative tests are of tremendous value in following the effects of therapy.

The new Kline Cardiolipin test is a comparatively simple test for the small laboratory to perform. It takes little equipment. However, unless there is a reasonable volume of tests to be run, I would suggest that they be forwarded to the State Public Health Laboratory.

**Bacteriological Tests**

Bacteriological examination has become increasingly important with the advent of specific chemotherapy and antibiotics. Unfortunately, bacteriological facilities are not available in many areas of the state. However, many times the white blood count and a Gram's stain will aid in the decision as to whether antibiotics will be effective or not.

**Urine Studies**

The urine can be investigated as an office procedure, but several precautions should be observed. It is satisfactory to do qualitative tests on a single urine specimen. However, quantitative tests should be run on a portion of a 24-hour specimen. Random urine specimens obtained one or two hours after a meal are the most likely to contain abnormal substances, while the usually accepted first morning specimen is the least likely to contain them.

The following tests on urine can easily be accomplished in the office:

albumin	phenolsulphonphthalein
sugar	Mosenthal
acetone	Kepler-Power water test
diacetic acid	examination of urine sediments
urobilinogen	bilirubin

Tests for albumin should be done on urine which is clear or has been clarified by filtration. The nitric acid ring test, heat and acetic acid test or the sulfo-salicylic acid test are all satisfactory.

Glycosuria can be detected by the Benedict's test or by the Clinitest. The latter is much simpler, and although chiefly a qualitative test, will suffice as a crude quantitative test. The Clinitest is adaptable for a patient's use to run fractional diabetic urines.

Acetone, diacetic acid, urobilinogen, and bilirubin tests on urine are extremely helpful as special office procedure when indicated.

Numerous tests for renal function have been advocated. The Mosenthal, or some dilution or concentration test, and the PSP tests are suitable as office procedures and they will give some qualitative information as to the concentrating and excretory power of the kidneys. These tests are in no way a substitute for other kidney function tests, such as the urea clearance, etc., if they are available.

The Kepler-Power water test is of some aid in the diagnosis of deficiency of the adrenal cortex or Addison's disease. It is an easy test to perform. The patient is told to restrict fluids from 10:00 p.m. to 7:00 a.m. and urine for this period (nine hours) is collected. The next morning at seven at the end of the nine-hour period, nine cc of water per pound of body weight is given the patient. (This should be taken as rapidly as possible, time not to exceed one hour.) Four hourly specimens of urine are collected at 8:00, 9:00, 10:00 and 11:00 a.m. If any hourly specimen of urine exceeds the total nine-hour volume, no Addison's disease is present. If none of the hourly specimens exceed the total nine-hour specimen and there is clinical evidence to suspect Addison's disease, further study is indicated. A blood chemistry for potassium, sodium, and 17 ketosteroids will substantiate the diagnosis.

The study of the urine sediment (centrifuged specimen) will often indicate the presence or absence of urinary tract disease. Acute nephritis cannot be treated properly without study of urine for red blood cells and casts.

**Biochemical Tests**

Blood chemistries, except for a few, can be practically run as office procedure. For the most part, contrary to the belief of most doctors, they are not as technical procedures as a blood count. They do,



however, require well trained technical help and more equipment.

Non-protein nitrogen, blood urea, blood sugar, blood calcium, and blood cholesterol in the hands of a graduate or well trained technician are easily accomplished.

Blood proteins, uric acid, CO<sub>2</sub> combining power, etc., although extremely important, should be left for the larger laboratories.

#### Gastric Analysis

Gastric analysis is a valuable test in gastro-intestinal disturbances.

The gastric mucosa secretes pepsinogen, renninogen, and hydrochloric acid. The hydrochloric acid activates these enzymes into pepsin and rennin. The hydrochloric acid also combines with proteins to form acid metaprotein. The latter is measured as "combined" acid.

Normally the stomach secretes gastric juice when stimulated by the presence of food; therefore, gastric analysis is usually made after a test meal.

#### Contraindications to gastric analysis

1. Stenosis or malignant tumor of the esophagus
2. Aortic aneurysm
3. Esophageal varices

4. Cardiac decompensation
5. Allergy (histamine)
6. Recent hemorrhage

#### Types of tube

1. Ewald or Boas
2. Levin
3. Rehfuess

#### Types of test meals

1. Ewald—arrowroot cookies and water
2. Alcohol—50 cc of 7% alcohol
3. Histamine—.25 mg histamine dihydrochloride or diphosphate.

#### Examination of gastric contents should include:

- |             |           |
|-------------|-----------|
| 1. Quantity | 7. Pepsin |
| 2. Color    | 8. Rennin |
| 3. Odor     | 9. Blood  |
| 4. Mucus    | 10. Bile  |
| 5. Reaction | 11. Cells |
| 6. Acids    |           |

In conclusion, I have attempted to enumerate some of the advantages and deficiencies of laboratory procedures. No attempt has been made to discuss all laboratory procedures, rather a few tests readily adaptable as office procedures have been discussed.

**MAKE HOTEL RESERVATIONS NOW**

**91st Annual Meeting**

**KANSAS MEDICAL SOCIETY**

**May 15-18, 1950**

**Wichita, Kansas**

**91st Annual Meeting****KANSAS MEDICAL SOCIETY****May 15-18, 1950****Wichita, Kansas**

The scientific program, presented by a group of outstanding guest speakers, will be of interest to general practitioners as well as specialists. The specialties represented and the speakers who will take part are as follows:

Anesthesiology . . . . .	John Adriani, M.D., Tulane University New Orleans, Louisiana
Dermatology . . . . .	Arthur Robertson Woodburne, M.D. Denver, Colorado
E. N. T. . . . .	Paul M. Moore, M.D. Cleveland, Ohio
Eye . . . . .	John C. Long, M.D. Denver, Colorado
Internal Medicine . . . . .	Cyril Mitchell MacBryde, M.D. St. Louis, Missouri  Samuel Bernard Nadler, M.D., Tulane University New Orleans, Louisiana  Sloan Jacob Wilson, M.D., University of Kansas Kansas City, Kansas
Obstetrics and Gynecology . . . . .	Edward Needham Smith, M.D. Oklahoma City, Oklahoma
Orthopedics . . . . .	Harold Augustus Sofield, M.D. Chicago, Illinois
Pediatrics . . . . .	James Bosma, M.D., University of Utah Salt Lake City, Utah
Surgery . . . . .	Virgil Sheetz Counsellor, M.D., Mayo Clinic Rochester, Minnesota
Urology . . . . .	Grayson Carroll, M.D. St. Louis, Missouri

**Scientific Exhibits**

The Committee on Scientific Exhibits, James B. Fisher, M.D., Chairman, solicits the cooperation of all members of the Society in presenting an outstanding series of exhibits this year. Members are requested to make reservations for space now, giving the titles of their exhibits, the amount of space required, and a list of equipment needed, electrical outlets, tables, chairs, etc. Reservations for space are to be sent to

Scientific Exhibits Committee  
1003 Schweiter Building  
Wichita, Kansas



## PRESIDENT'S PAGE


Dear Doctor:

You have gone through a strenuous and trying war period. You have been overworked. There has been strain and stress, not the least of which is the threat that your liberty will be taken from you by bureaucrats in Washington. It may now be time to take inventory, perhaps a rest, possibly a check up. You are an important and expensive necessity in your community and your services must be preserved. It is your duty, not only to yourself and your family but to your community, to look well to the maintenance of this valuable mechanism.

In our professional duties our emotions are played on from morning to night. Too often this results in poor professional relations; too often our motives are misinterpreted, resulting in distrust and dissension among ourselves. The most devastating consequence is that the doctor's judgment and perception become warped, which does not work toward the best interests of the patient; therefore, take care of yourself, relax, it may be later than you think.

A few days ago we had the pleasure of presenting the Second Annual Kansas Medical Day at the University of Kansas School of Medicine. Some 165 junior and senior students were present. The intent of this day is to help round out the students' education in showing what the practice of medicine consists of, its financial, legal, ethical and social aspects, and to interest the students in remaining to practice in this state. Had all Kansas doctors found it possible to be present for this occasion, not the least benefit would have been their inspiration at seeing the fresh enthusiasm and idealism of these splendid young men and women. It would have renewed your confidence in the future of medicine and have given you a warm, comfortable feeling of pride in your medical school.

Sincerely,

A handwritten signature in dark ink, reading "Haddon Peck, M.D." in a cursive style.

*President.*

## EDITORIAL COMMENT

## Postgraduate Education in Kansas\*

At the conclusion of World War II, the doctors returning to civilian practice almost universally felt the necessity for refresher courses in medicine. To fill this great need such courses were established in all branches of medicine, similar to those in therapeutics which had been given for some years at the medical school under the auspices of the University Extension Division. For this expanded series of courses a new department, Postgraduate Medical Education, was established. This was made possible through the voting of special funds by the state legislature and the very important interest and assistance of the Kansas Medical Society.

Mr. Harold G. Ingham, for many years Director of Extension for the University, but whose real love was medical extension, came to the medical school as Director of Medical Extension in this department. Our courses are of four types: (1) short courses, two to six days, given at the medical center on succeeding days; (2) continuation courses, the same day each week for 6 to 12 weeks, at the medical center; (3) circuit courses given at various centers in the state; and (4) the in-residence training. This covers different courses with varying periods of training of one month to one year. As the present building program at the center approaches completion, this type of training can be offered in more departments of the medical school.

In choosing and arranging these courses a committee of the Kansas Medical Society sits with representatives from the medical school faculty and the State Board of Health. In addition to deciding types of courses, the individual topics, and the faculty—local as well as guest speakers—are discussed, with a view to presenting to the physicians of Kansas such scientific medical themes as are felt needed.

For the present 1949-50 series of 16 courses some 55 distinguished guests, leaders in their respective fields from all corners of the United States and Canada, are being presented, in addition to many guests from among the practitioners in the state of Kansas, and from the faculty of the medical school.

The attendance at the postgraduate short courses at the medical center for 1948-49 totaled 755, the continuation courses 86, the circuit course 275, and nursing education 243. Attendance for the present 1949-50 series is in advance of the previous year. This is indeed a remarkable coverage of the doctors of the state of Kansas. With the completion of new facilities for this department, now under construc-

tion, possibilities for more successful and comfortable accomplishment of the desired end of carrying medical education to our practicing physicians of the state of Kansas will be greatly enhanced.

And one more of the plans of the dean and faculty of the medical school will be brought to fruition. We now look forward, as facilities are made available, to the possibility in the not too far future of offering many in-residence training programs of varying lengths of time of one or more months. All of this adds up to the ideal of *continued medical education* for the doctors of Kansas.

### Thomas Grover Orr: Scholar, Surgeon, Samaritan

*Editor's Note. Following is an address presented by Owen H. Wangensteen, M.D., Department of Surgery, University of Minnesota, on the occasion of the unveiling of Dr. Orr's portrait at the University of Kansas School of Medicine, November 21, 1949.*

It is a real privilege to have the pleasure of being here on this very important occasion in the annals of the medical school of the University of Kansas. Moreover, it is fitting that officers of the state of Kansas and members of the faculty of medicine of your university and erstwhile pupils and associates of Dr. Orr come together to invest this moment with dignity and the charm of happy recollection. This hour gives eloquent testimony of the respectful and affectionate regard the people of Kansas have for Thomas Grover Orr. This is Dr. Orr's day in Kansas! And well it might be in the nation. The community, the state, the nation, yes the world—all have an interest and stake in our public institutions and the men who give them leadership.

In this community, Dr. Orr has spent 35 years in arduous and fruitful activity in his chosen field of work. For 25 years he has been the director of the destinies of the Department of Surgery in your university, during which time investigations pursued here have made the influence of the medical school of Kansas felt in the remote corners of the world. These researches have brought renown to your university and the regard and esteem of leaders in the medical world to Dr. Orr.

In a way, it is a bit anomalous that honor is done to deserving individuals when they take leave of university faculties. This, however, is traditional and it is a custom which perhaps will never change. It is very proper, however, on an occasion such as this to try to convey to Tom Orr the deep sense of appreciation we all share for a full life spent in the service of his fellow man. We who have been privileged to come within the radius of his influence cherish that association with pride and affection. Dr.

\*Prepared by Edward H. Hashinger, M.D., Chairman of Department of Postgraduate Education.



Orr's interest in the young aspirant for a career in surgery is well known to many. It is a pleasant duty for me to acknowledge here that he sponsored my candidacy to the Western as well as the American Surgical Associations, long before considerations of eligibility had occurred to me. Undoubtedly, Dr. Orr has anticipated many a young man's unexpressed yearnings for the approbation of his peers.

Friendship is the noblest relationship between men. A good yardstick of a man's ability might well be said to be his capacity for friendship. And when the warmth of that handclasp is felt by earnest, sincere young men, is it any wonder that they treasure in their friend this new found enlargement of the common nature with unbounded enthusiasm? And as future generations of medical students meet the steady searching but sympathetic and gentle gaze of Dr. Orr's portrait, let them be reminded that here was a modest Kansan, as great in his humility as in his achievement, respected and revered by his associates—a man in whom the love of his fellow man was great.

Said Abou Ben Adhem, in Leigh Hunt's poem, when visited by the recording angel:

"I pray thee, then,  
Write me as one that loves his fellow-men.  
The Angel wrote, and vanished. The next night  
It came again with a great wakening light,  
And showed the names who love of God had  
blessed,—  
And lo! Ben Adhem's name led all the rest!"  
Of this mold is Tom Orr.

Dr. Orr has left his impress upon many fields of activity in surgery. His contributions to our understanding of the problem of intestinal obstruction, made jointly with Dr. Russell Haden, formerly of this faculty, are well known. Those important papers had much to do with the reawakening of medical men's interest in the lethal aspects of bowel obstruction. Dr. Orr's early interest in the engaging problem of water and electrolyte requirements of surgical patients has excited the concern of others, an important side chain reaction of all research. Studies of shock, surgical infections, problems of wound healing, the interesting hepato-renal syndrome, and various forms of hernia have absorbed his attention; moreover, these studies have been helpful sources of instruction to others. His many contributions to the surgical management of many visceral malignancies, especially of the pancreas, are deserving of careful study by everyone who effects a serious interest in these conditions. His two monographs on Amputations and Operations of General Surgery are widely read. Both give eloquent evidence of their author's erudition as well as his broad perspective of a wide range of important surgical subjects. Moreover, Dr.

Orr's unceasing industry over long years is evinced clearly in this brief recital of his productive and literary labors.

But what is labor when a man's heart is in the effort? It is interest that makes burdens light. And when it stirs and grips a man's imagination, the work becomes pleasure. An awakened imagination shortens the hours of toil and sweetens the labor. While the body tires, the spirit is refreshed. Ah, happy that man who has found abiding satisfaction in his work! And when that labor concerns the betterment of his fellow man, can work be more satisfying? Man hungers for many things. I believe it would be within the fact to suggest that the abiding satisfaction of contented industry appeases the hunger of a man's soul as completely as the yearnings and cravings of man's spirit can be met in this life.

Those of us who have been privileged to observe Dr. Orr's keen pleasure and his calm enjoyment of home and family know how complete his happiness has been. Those of you whose hair is as white as mine can appreciate the truth of Tennyson's suggestion in the choric song of the Lotos Eaters: "There is no joy but calm!"—Dr. Orr has always irradiated a tranquillity and serenity of soul that many of us have striven less successfully to achieve.

Dr. Orr has been a part of this community so long it would ill befit me to come here to attempt to relate to you things concerning him which already you know at first hand. He has been a strong force in this medical school, in the community, yes in American surgery. Moreover, he is held in affectionate regard by a host of admiring friends and colleagues. We have assembled today to do him honor for those rare qualities of warmth, strength and modesty which stamp him as the man you and I know him to be. At a time such as this, it is proper to voice our common sentiment of sincere and reverent gratitude for the circumstances and ties which joined forces to give us a person like Tom Orr. And rather than attempt to assess what happy combination of elements gave him to you as you and I know him, I have thought it more suitable for the occasion to discuss some of the items of circumstance and fealty which influence the surgeon's work and determine whether success or failure will attend his journey and mission in the voyage of life.

#### Yesterday, Today and Tomorrow

It is easier to look 200 years backward than five forward. Yet life has to be lived looking forward, though we only understand it looking backward. It is important on occasions such as this to attempt to look even dimly into the future. It is said of your mythical bird, the Jayhawk, which is alleged to fly backward, that he is more interested in where he has been than where he is going. This legend must place

a great stretch upon the credulity, even of a Kansan. It is the devout task of the historian to keep the past alive for us. While we speak the names of those persons who have contributed to our well-being with piety and reverence, let us turn our faces squarely toward the future. Kansans have a way of looking into the mouth as well as into the eye of things other than horses.

A moment ago I touched upon the writing of books. There are prophets of an earlier day, who affected to believe and attempted to communicate the conviction to others that nothing of any merit could come from a pioneer area beset with the absorbing tasks of carving its way out of wilderness. How short is the memory of man! Has that not always been the history of civilization? Some of you will remember that Sydney Smith was constrained to write in the *Edinburgh Review* concerning the self-adulation of Americans—and we admit freely that we are not slow in detecting the praiseworthiness of our own efforts. Said the Reverend Smith, in 1820: "In the four quarters of the globe, who reads an American book? or goes to an American play? or looks at an American picture or statue? What does the world yet owe to American physicians or surgeons?" Who then could have foreseen the long list of distinguished writers, artists, physicians and surgeons, and scientists who would arise here in the geographic heart of America? In his brilliant Phi Beta Kappa address of 1837, Emerson spoke out in somewhat angry tones to this vexed and impatient pontification, with far better evidences of the true inspiration of a major prophet.

Yes, all that Emerson predicted for America, and more, has come true. In 1891 Henry Cabot Lodge wrote concerning: "The Distribution of Ability in the United States." He observed that, whereas little Massachusetts had 2,686 authors, orators, philosophers and builders of States, eight western states ranging from Ohio to California had only 641. Neither Kansas nor Minnesota merited mention. Lodge avoided affecting the role of a prophet with reference to his data culled from Appleton's *Encyclopedia of American Biography* covering the preceding 100 years. He did make one observation, however, which has important connotations even for us today. The most important result of the inquiry indicated that the people who have produced the ability of the country are "those who became most quickly and most thoroughly Americans." On this basis alone, Kansas, which has been described as the very child of Plymouth Rock, has a great destiny.

It is not enough to provide books and opportunity for study. Our teachers must strive to instill in the pupil a genuine interest in and love of books and study. That is the most difficult task of the teacher.

It is in this sphere that the gift of the spirit makes its influence felt. Teachers like Dr. Orr, who create about them an atmosphere of happy endeavor, become the leaders of inspired youth. This emolument of the pedagogue in terms that the spirit of the true teacher can appreciate, should recompense him in part for the lack of pecuniary support with which society rewards the efforts of the school teacher.

Sources of information (J. Gunther 1947) suggest that a surprisingly large percentage of our population in states such as Kansas and Minnesota are without access to libraries. This is not true in Minnesota. However close the radio and television bring us in contact with what is transpiring in the world, there is no substitute for a collection of books. They give us instruction and charm us at the same time. We cannot fly daily to good friends to find that comfort, consolation, solace, and sympathetic understanding which lie at our very elbows in our favorite books. They shape and mold our lives without reproving us. In them resides the immortality of the ages. Let men strive to mirror their lives after a good book; yes, the Good Book is a perfect model. In this atmosphere, where for long years many members of your distinguished faculty with a keen zest for the exploration of the medical lore of our predecessors have taught the love of books, it is not necessary for me to belabor the point.

#### The Loyalties of Men

We all have many loyalties. We are beholden to many persons and things: to our parents, our environment, our teachers, our associates, our families and our country. The chief loyalty of every man, however, is to the deepest and most satisfying want of his innermost being. It is the youth who becomes absorbed with an overpowering and sustained passion to achieve something for his fellow men who finds happiness and success for himself. Dr. Orr's life-long devotion to the disciplines of surgery gives evidence of his loyal and faithful devotion to his work, including the opportunities and responsibilities which it encompasses.

If in this or any community, citizens have achieved financial success beyond the needs of personal or family security, examination of the very nature of loyalty will suggest to them that they should give liberally to the institutions of learning in their own communities. All the citizens of this great Midwest need to learn this lesson. We live in that section of our country characterized by great state universities. We often hear it said here: "I support the university through the agency of taxation; that is enough." I say it is not enough. We in the Midwest must take an even greater pride in our public institutions than we profess.

The wealth of these great midwest states is not such that large sources of monies can be placed at



the disposal of our universities and medical schools for purposes of research. Yet the whole life-line of progress is linked to research. Neither your medical school nor mine had risen above mediocrity until members of our faculties concerned themselves with research. While we strive to indicate to the representatives of our state governments that only research can break the shackles of speculative rationalization and improve our conditions of life, let us also have them understand that we must also look hopefully and expectantly to local private sources of wealth for generous support of research. When that comes about, starved scientists will not migrate as readily into areas of greater opportunity. And the future of your medical school and mine will be assured because our faculty lists will contain the names of many ardent seekers after the light. It is in institutions where that catalytic influence is at work that the leaders of tomorrow are in the process of development today. The promised land, like the Kingdom of God, is within our very selves.

When we in our own communities learn to appreciate this important aspect of the philosophy of loyalty; when our pride in our public institutions of learning is no longer catatonic in its apathy; and when that pride transcends lip service and secures the full and loyal support of men of courage, influence, strength, vision and wisdom—our public institutions will vie for honors in the service of our country and our fellow man with the best that the world has to offer.

The matter of learning to see eye to eye on common problems is an item which commands the serious attention of individuals, communities, states, and nations. Longfellow, in his beautiful poem *Evangeline*, described the search of Gabriel and Evangeline for each other which terminated successfully on Gabriel's death-bed in a Philadelphia almshouse. He was trying to exhort individuals and nations to see eye to eye while there was still time. The interdependence of the people of a community and its public institutions of learning is great. Both should strive to bring to the other the best service of which it is capable. We must all learn to be obedient to what is best for us. In that way lies our greatest destiny. We have real need of one another. The division of labor has brought comfort, convenience, health and leisure to all of us. Each of us must bring his gift to the community; it, in turn, rewards us richly beyond what we could have done for ourselves. This growing concept of the nature of community responsibility should become a precept for all of us. A true appreciation of what our respective communities mean to us individually should fill most of us with a sense of high privilege and deep obligation.

#### What Are The Criteria of Success?

We know very little about the criteria which foretell success. The prophecies of the seers of football go awry because of unexpected upsets. The successful person learns to right himself quickly after failure through lessons learned in the self discipline of suffering. No man ever achieved real distinction who failed to survive the "slough of despond."

Fatigue of the spirit, whether in situations or personal relationships, has been many a man's undoing. It is a very human failing, and you and I must constantly be on the alert lest our best intentions be nullified by this dangerous and stealthy enemy. Steadfastness under difficult conditions tries a man's soul but builds an inner strength. Men who look to ready agreement or who can withstand only putty-like resistance or opposition never become courageous leaders. The farmer puts an edge on his sickle with an emery wheel. A man who has come to wield an important moral force, like Dr. Orr, has survived opposition, in which process he has learned to accept criticism with good grace.

The motivations of his life are matters known only to Tom Orr. I would guess that as a boy he sang or whistled while at his work; that he bore his burdens without complaint; he may have made orations in the cornfield. I am certain that he built castles in his imagination, tore them down and built them up again. Later he devised experiments and operations and probably toyed with them in his mind's eye long before they were executed. In this manner, the successful general wins his battles, actually long before they are fought. Thoughtful imagination is the master of strategy, amongst surgeons as well as generals.

The loyalty owing our environment is deserving of careful examination by everyone. We are all in a sense the products of external circumstance. See how Abraham Lincoln, Franklin Delano Roosevelt and Winston Churchill responded to the demands of their time. Could there have been a Lincoln without the problem of slavery? Could there have been a Churchill or a Roosevelt without the threat of Fascism? Must a hero rise to combat the spread of Communism in the same manner? Must our tests and battles of life always be won in the Gethsemane of suffering? Will we never learn enough of the art of living at peace with ourselves and our neighbors to rise above our differences in more peaceful ways? We all learn to be philosophic about past and future difficulties. Must distressing problems of the moment overcome all our philosophic pretensions and throw us into emotional and intellectual confusion? Yes, even our governments, whose spokesmen profess to be the most mature and enlightened statesmen of our time, like you and me, are not as

philosophic over current problems as they should be. Must we in such conflicts affect the part of a bully, calling every nation which differs with us an enemy, and attempt to beat him to his knees? It is strange how we seem to be able to compose our difficulties when one of us is vanquished. Must it always be so? True friendship, compounded of sincerity, mutual respect and fostered by an affinity and kindredness of spirit, out of which grows a sympathetic understanding, is as necessary for amity amongst nations as well as in personal relationships. We must strive to understand our neighbors in other countries, who differ with us, or we can never have lasting peace. Only villains and scoundrels need to be overcome by force.

Our federal government expends approximately 85 per cent of its annual revenue to support the cost of past and the possibility of future wars. What a sad and tragic commentary on our failure to see eye to eye with those who differ with us. If that money were spent for the betterment of man's state, what a utopia this might come to be! How research institutes would flourish to bring comforts, conveniences, enlightenment and health to man! Those of us who are approaching the twilight of our lives may not live to see the day when nations will no longer resort to war to settle their differences. Perhaps our children or their children may. The outlook can only be brighter when we have intelligent and inspired leaders who are willing to resolve differences by waiting patiently for the counsel of hope and the vision of time. The admonition of Revelations speaks forcibly to this point: "He that leadeth into captivity shall go into captivity: he that killeth with the sword must be killed by the sword. Here is the patience and the faith of the saints."

The world is, always was, and probably will continue to be in ferment! Change and progress have always meant conflict with some area of society. Complete content of the human spirit is unfortunately brief. We feel it most on holidays like Thanksgiving and Christmas. Can not nations learn to compose their differences and disagreements in manners which necessity imposes on smaller segments of peoples? Must mists and shadows overwhelm us with fear? Can not nations learn to dispel fear without dreadful purges of human life? Is not the society of the world but an enlargement of the community? In the various communities of life we can do well to emulate the Samaritan who was a good neighbor to his fellow man. Let us hope with Lowell that even if:

"Daily with souls that cringe and plot  
We Sinais climb and know it not."

There has been a gradual shift of sentiment here and throughout the world with reference to the un-

certainties of the future, from a feeling of buoyant confidence and hopeful expectation to one of anxiety and foreboding. The more we have emphasized the need of greater security for our physical lives, the less security we have achieved within ourselves. Such has been the curse and apprehension engendered by recurrent wars. Why this continued chant of fear, suspicion, and war? What if we strove with the same concern to detect some of the praiseworthy qualities of our fellowmen with whom we fail to see eye to eye? May not such an attitude restore confidence and lessen fear? May it not supplant suspicion with understanding and make us feel more secure with reference to the future? May it not bring the promise of peace, where there is now the constant threat of war?

It is not in the profession of moral rectitude that man most closely expresses his divine nature. It is not in meting out justice; unless justice is tempered with mercy, justice can be cold and harsh. Most of us, in fact, all of us, look with more tolerant indulgence upon our own weaknesses than upon those of others. When we learn to view our neighbor's infirmities with the same indulgent attitude that we apply to ourselves, we may begin to understand him. When more sympathetic understanding for our fellow-man becomes widely diffused throughout this world, fear, suspicion, and the threat of war, which fill men's minds and hearts today, can be replaced by confidence, trust, and the promise of peace.

Let us be watchful; let us not delude ourselves. Let us not intoxicate ourselves with hope, but let us strive to understand our fellow-man. Intrinsically, he is probably very much like you and me. And all the experience of history teaches that what happens to our fellow-man concerns us, too, for in the final analysis we rise or fall together. If we put our fears aside, perhaps he would too. If we replaced suspicion with trust, might not he? Is there any other way to abrogate war and insure a more lasting peace? How else may we shake off the psychology of fear and the consternation in which we are gripped?

#### Failure As A Guide To Success

Successful surgeons, like Tom Orr, learn to implement failure as a guide to success. In the progressive clinic, every failure is examined critically with a view to determining how the milk was spilled; the question of who spilled it is of far less importance. Nations, yes, our nation, would do well to focus the brilliant light of careful scrutiny upon our failures to achieve peace without war. The motto of Kansas could well be a surgeon's guide as well as that of nations: "Ad astra per aspera." Whereas our citizens may sometimes suggest that we think this



means relief through aspirin, it signifies, on the contrary, that the stars may be reached by surmounting difficulties. As Dr. Orr looked up the steep ascent of Jacob's ladder leading to success, he probably kept the inspiration of this motto constantly in the focus of his mind's eye. Success can not be commanded; it must be deserved. Some of the solid rungs upon which he made the climb have been enumerated. Everyone here today, I am certain, rejoices that Dr. Orr had the courage and the constancy to undergo the sacrifices and the toil which the effort demanded. Ropes of sand afford no help in scaling the ladder to academic distinction. To those who gave him assistance and encouragement and helped him overcome fatigue of the spirit during the long, steady ascent, we are equally grateful. Here he is now, calm and serene with no manifestations of breathlessness, in the full vigor of life, exhibiting little or no evidence of the wear and tear that such strenuous years make upon most men.

He who has suffered pain learns to know joy. But the full enjoyment of pleasure requires a sense of gratitude. In order that we ourselves may be able to share with Dr. Orr and his family a full measure of pleasure in the joys that have come to them, let us try to express on this happy occasion our great gratitude for an exemplary and a successful life. And as Tom Orr, Surgeon, Scholar and Samaritan, approaches the contemplative years, let our joint wish for him be that, just as the afterglow of sunset in the western sky restores for a brief time the light of day, so too his meditations upon days of earlier feverish activity will bring back to him many agreeable memories of pleasant labors and associations.

---

## COUNTY SOCIETIES

---

A meeting of the Sedgwick County Society was held at the Broadview Hotel, Wichita, on February 7. Dr. Paul H. Holinger, associate professor of laryngology and professor of bronchoesophagology at the University of Illinois, was guest speaker. His subject was "Indications for Bronchoscopy in Pulmonary Disease." The next meeting will be held on March 2 with Dr. Albert V. Stoesser, of the University of Minnesota Medical School, speaking on "Uses and Abuses of Anti-histamines."

\* \* \*

A dinner meeting of the Brown County Society was held February 3 at the Hotel Redmon, Hiawatha. Guest speaker was Dr. Winstan L. Anderson, Atchison, councilor of the first district.

\* \* \*

Members of the Stafford County Society were hosts at a meeting of the Mid-Kansas Medical Society held at Harper's Cafe, St. John, January 30.

Guest speaker for the scientific program was Dr. Galen M. Tice, radiologist from the University of Kansas Medical Center.

\* \* \*

The Franklin County Society met January 25 at Ransom Memorial Hospital, Ottawa. Dr. Herbert Hamel, Kansas City, Missouri, addressed the meeting on "Disabilities of the Foot."

\* \* \*

Dr. Haddon Peck, St. Francis, was guest speaker at a meeting of the Cowley County Society held January 18 at the Winfield Country Club. He told of the aims and objectives of the Kansas Medical Society.

\* \* \*

A meeting of the Shawnee County Society was held February 6 at the society's office. Dr. William T. Sirridge, Kansas City, spoke on "Differential Diagnosis of Hypo and Hyper Metabolic States."

## DEATH NOTICES

ROBERT MARION MARKHAM, M.D.

Dr. R. M. Markham, 87, an honorary member of the Crawford County Society, died at his home in Pittsburg January 30. He was graduated from the University Medical College of Kansas City in 1892 and began practice at Scammon, retiring three years ago. He was active in civic affairs and had served as mayor of Scammon and president of its men's commercial club.

\* \* \*

FRANK FONCANNON, M.D.

Dr. Frank Foncannon, 60, Emporia surgeon, died at an Emporia hospital February 1 after a short illness. He began practice in Emporia 35 years ago, immediately after his graduation from the University of Pennsylvania School of Medicine in 1914. He was active in medical society affairs and had completed his second term as councilor for the Fourth District of the Kansas Medical Society last spring.

\* \* \*

EUGENE PILE, M.D.

Dr. Eugene Pile, 90, who had practiced medicine in Sumner County more than 60 years, died at Holton February 14. He was graduated from the Missouri Medical College, St. Louis, in 1883, and practiced first at Cleardale and Portland, moving to Ashron in 1915 and practicing there until his retirement. He was made an honorary member of the Sumner County Society in 1936.

# Case Report from the University of Kansas Medical Center

## Pulmonary Death, Eosinophilia, Prolonged Gastric Symptoms

### Clinical Pathological Conference

Edited by Glen R. Shepherd, M.D., and Mahlon Delp, M.D., from recordings of weekly clinical pathological conferences participated in jointly by members of Departments of Pathology, Internal Medicine, Surgery, and members of Junior and Senior Medical Classes.

#### Clinical Presentation

B. J., a 38-year-old white female entered the Kansas University Medical Center March 25, 1949, and died March 30, 1949.

Her chief complaint was gastric ulcer, pneumonia, weakness, fever, and dyspnea. The history of the present illness revealed that the patient had noted the onset of vague ulcer symptoms three years ago, prior to present admission, consisting of epigastric distress particularly in the morning, and this was relieved by eating. X-ray showed no ulcer but her symptoms persisted and she was placed on a Sippy regimen, with symptomatic relief for nearly six months. The patient then began deviating from the strict ulcer regimen. There was a recurrence of symptoms. Diagnosis of ulcer was then made by x-ray. The patient returned to a strict diet, which gave her relief. She did well until five weeks prior to admission here, although her husband stated that for three months she had not seemed as well as usual.

Five weeks prior to admission, there occurred chest pain chiefly in the anterior bases and in the back. This pain seemed pleuritic in character and became progressively worse. It was accompanied by persistent low grade fever and a dry hacking cough. The patient went to bed four weeks before her admission here, and two weeks before the present admission she entered her home town hospital for treatment. Food or liquid by mouth was nauseating and resulted in vomiting about two hours after ingestion. The patient suffered from intermittent gastric pain, weakness, and dyspnea and lost 14 pounds in one month. She remained in the hospital two weeks and was then transferred to the Kansas University Medical Center for further study and therapy.

Laboratory studies prior to admission here were as follows: chest x-ray showed diffuse marked infiltration. No acid-fast bacilli were seen in sputum examinations. Sputum showed only gram positive encapsulated diplococci and pus cells, and Wright stain showed no fungi or yeast. The pus cells were 90 per cent eosinophiles. Papanicolaou stain was non-contributory. Urine was negative. Complete blood examination showed 11.5 grams Hb, 3,700,000 Rbc's, 16,000 Wbc's, with a differential of neutrophils 58 per cent, stab cells 14 per cent, small

monocytes 14 per cent, large monocytes five per cent, and eosinophiles nine per cent. KUB and IV pyelograms of the dorsal spine revealed slight lip-ping. Fluoroscopy of the stomach showed an elongated organ of J type with a relatively shallow flat-based ulcer mid-way on the lesser curvature with prominent rugae and some scarring around the margin. Management at that hospital consisted of penicillin, aureomycin, Sippy regimen, Amigen intravenously, sedation, antihistaminics and IV fluids. Many febrile reactions with chills followed the administration of parenteral fluids. During the previous hospital stay and one week prior to admission here, the patient vomited blood following which tarry stools were passed for several days.

In the past history, the patient had been well all her life except for scarlet fever four years before this admission.

Family history was not contributory.

The system review revealed irregular menstruation with improvement during thyroid medication. Two children were born to her, full term, normal deliveries and both are living.

Physical examination showed a well developed, moderately undernourished white female appearing extremely pale, dyspneic, and acutely and chronically ill. Mucous membranes and skin showed extreme pallor and some dehydration. Breasts were not unusual. There was generalized diffuse dullness to percussion bilaterally over the lung fields. Tactile fremitus was increased. Breathing was bronchial in character with occasional moist crepitant rales, particularly in the bases. Pulse was 120, regular, and small. Blood pressure was 110/76. PMI was felt three cm. lateral to the mid-clavicular line and in the fifth interspace. A generalized soft precordial murmur was heard loudest at the mitral area together with a pulmonary systolic murmur. Hepatomegaly was present with sharp-edged liver four fingers below the costal border in the mid-clavicular line. The liver was slightly tender. The spleen was not enlarged to palpation. There was a slight diffuse tenderness of the abdomen, but no distention or fluid wave. Fingers were moderately clubbed. No lymph nodes were palpable.

Laboratory examination during the present admission showed the following: urine negative. Blood study revealed 2,400,000 Rbc's, 19,950 Wbc's, Hb 6.7 Gm. (43 per cent), and differential of polymorphonuclear neutrophils 35 per cent, filamented polys 17 per cent, lymphocytes 14 per cent, eosinophiles 36 per cent, basophiles one per cent,



monocytes one per cent, metamyelocytes six per cent, myelocytes seven per cent, and seven nucleated Rbc's per 100 Wbc's. Serology was negative. NPN was 33, creatinine 1.4, blood sugar 100, cholesterol 281 mgm. per cent. Total protein was 5.4 with globulin 1.44 and albumin 3.96. Skin tests with tuberculin, histoplasmin coccidioidin and blastomycin were negative. Sputum culture showed normal flora with *N. catarrhalis* predominating and no fungi. No acid-fast bacilli were seen in the sputum. Smears showed many eosinophiles. Stools revealed three-plus positive hematest for blood. Sedimentation rate presented a vertical curve 31 mms./hour. Three routine blood cultures were negative and one for fungi showed none. Neither did a sternal marrow culture for fungi reveal any growth. The complete blood study showed an icterus index of three units, platelets 170,000. Beside the anemia, the individual red corpuscles revealed moderate anisocytosis, slight poikilocytosis, normochromia and marked polychromatophilia. Nucleated red blood cells were observed. The reticulocytes were slightly increased in number. A leukocytosis was present, although the increase in cells was mostly mature eosinophiles. However, considerable numbers of metamyelocytes and myelocytes of the neutrophilic series and occasional ones of the eosinophilic series were observed. Complement fixation for histoplasmosis was negative. Sternal marrow biopsy was not reported at the time of death. X-ray and EKG examinations will be discussed later in the conference.

The patient had a fulminating progressively worsening hospital course and died five days after admission. During this time, she had a fever of 99° to 101°. There was persistent tachycardia of 110 to 140/minute. There was a progressive rapid cardiopulmonary failure with increasing pulmonary edema and congestion as manifested by moist bubbling rales throughout the chest. Therapy consisted of complete bed rest, modified ulcer regimen,

dihydrostreptomycin, penicillin 10,000 units every three hours terminally, and cardiovascular management including digitalization, aminophyllin and mercurhydri. The patient received three 500 cc. blood transfusions preceded by an anti-histaminic, which were well tolerated with the exception that there seemed to be increasing pulmonary edema after each transfusion. In the final day of life, there was severe pulmonary edema with moist bubbling rales throughout the chest and persistent hacking cough producing frothy bloodtinged sputum. The patient became increasingly dyspneic and orthopneic. Although she was placed on oxygen first by nasal catheter and later by tent, she still remained orthopneic, dyspneic, and cyanotic. Death apparently was due to heart failure secondary to pulmonary edema and respiratory incompetency.

Dr. Delp (Chairman): Will you present the x-rays, Dr. Tice?

Dr. Tice: A film of the chest in March, 1949, showed diffuse patchy infiltration which looked inflammatory to me. The absence of any distinguishing architecture did not suggest malignant metastases. We considered the possibility of tuberculosis because of the infraclavicular infiltration. However, we decided that this was an inflammatory infiltration of unknown origin.

Dr. Delp: Will you present the electrocardiograms, Dr. Cochran?

Dr. Cochran: A tracing taken three years ago showed the three standard leads within normal limits. The recent tracing on the second day of the final illness showed a marked increase in the rate, a sinus tachycardia. There are no specific significant changes in the QRS complex. T waves were still upright although of lower voltage than previously. CR1, CR3, and CR5 showed only minor ST changes.

Dr. Delp: Will Mr. Ossar present his differential diagnosis in this case?

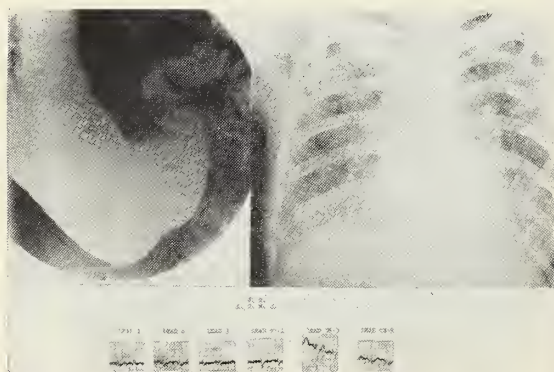


Figure 1. Film of stomach taken five months prior to terminal illness showing nothing which could be interpreted as neoplastic lesion. Film of chest suggestive of infiltration common to fungus infection. Electrocardiogram showing right heart strain.

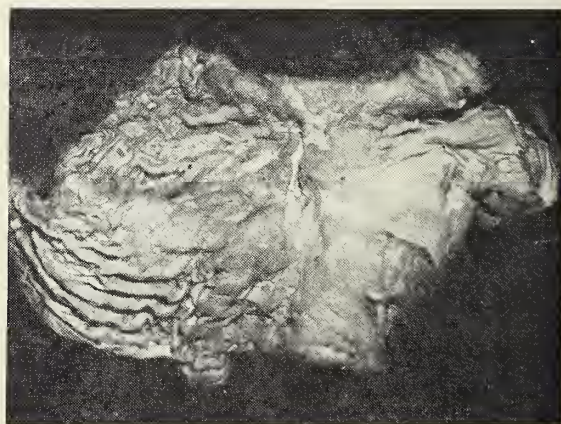


Figure 2. Specimen of the stomach. Upper central field shows ulcerated rolled edge whereas to the lower right there is an area with swollen and scarred edge.



Mr. Ossar (Medical Student): One wonders whether this patient had one disease or two. That is, are the chest findings and the gastric ulcer perhaps unrelated? With the eosinophilia, one can't rule out a malignant ulcer, especially because the present ulcer is on the lesser curvature of the stomach, and such a malignant ulcer can produce an eosinophilia and miliary lesions to the lung.

The stomach ulcer could be tuberculous, although this is very rare. The fact that tests for mycotic infections were all negative tends to rule out such infections. Loeffler's syndrome might be considered except that it usually lasts only one or two weeks with recovery being the rule.

The possibility of Hodgkin's disease must be considered. We saw one of these in the stomach not long ago. I don't know whether Hodgkin's lesions could be so diffusely distributed.

Periarteritis nodosa is possible because this was a sensitive individual. I am not sure how this possibility could be ruled out.

I don't know what the diagnosis in this case might be.

Dr. Delp: What is Loeffler's syndrome?

Student: It is not a disease entity. Rather, it is a syndrome sometimes seen in an allergic reaction to parasites and, more rarely, to fungi.

Dr. Delp: What is the explanation of an eosinophilia of 36 per cent?

Student: Several things can explain such eosinophilia, such as parasitic disease, allergic manifestations, or mycoses.

Dr. Delp: What is your best diagnosis?

Student: Loeffler's syndrome.

Dr. Delp: Why did the patient die?

Student: From a reaction to transfusions and from the pneumonia.

Another Student: Because of malignancy.

Still Another Student: From a diffuse collagen disease, probably allergic.

Dr. Delp: This case presented several interesting features. I discounted the finding of occult blood because we saw no blood vomited nor gross blood in the stool. I attached significance to the marked anemia, dyspnea, and tachycardia. They are salient features. The chest infiltration I considered important, although it may have been misleading. The eosinophilia was confusing to me.

I could make no single definite diagnosis, but I could and did set up a differential diagnosis. This included histoplasmosis, or some kind of mycotic infection, lymphoma or lymphosarcoma, a malignancy of unknown origin and, of course, the possibility that the gastric ulcer was malignant. The patient died in acute pulmonary edema. Oxygen by catheter inside a tent didn't relieve the cyanosis. This patient had a remarkable reduction in vital capacity. She had a cor pulmonale and the EKG shows some evidence of right heart strain characteristic of cor pulmonale.

Dr. Schafer (Surgeon): I don't think we can discount the gastro-intestinal bleeding and, in view of the ulcer history, I would refer the bleeding to that source—from the gastric ulcer. However, I feel at a loss in attempting to relate the later course of her disease to the gastric ulcer. She may have had an infection. A subdiaphragmatic abscess can produce most of what happened here.

If we choose gastric ulcer as the chief offender, we can't very easily assign malignancy to that ulcer.

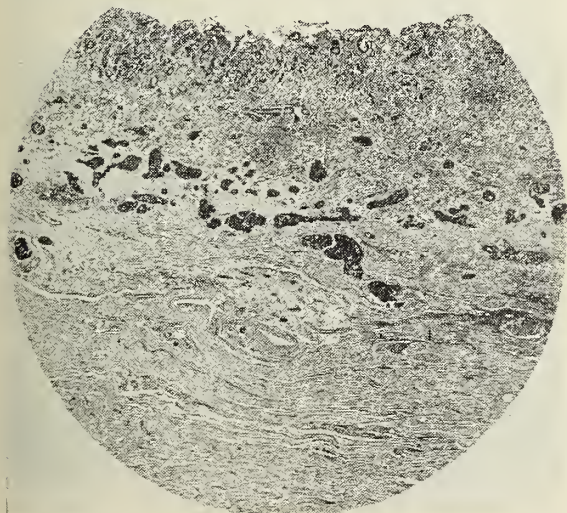


Figure 3. Section showing tumor cells in submucosa and mucosa.

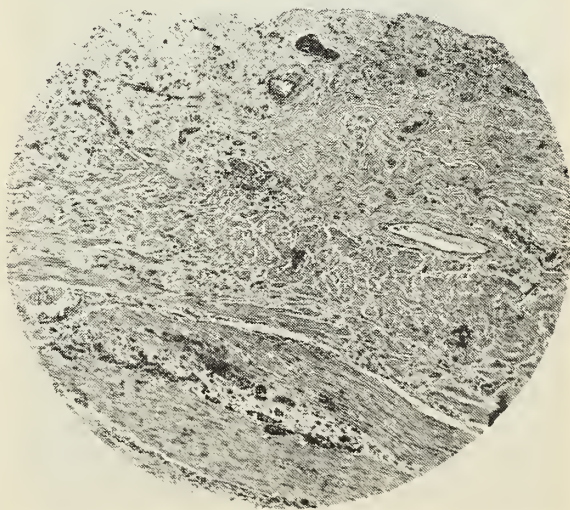


Figure 4. Revealing extension into the mucosa and tumor thrombi.



If it had existed for three years as given in the history, it probably was benign. Of course, perhaps the disease was only of three months duration instead of three years.

I related her anemia to the blood loss from gastrointestinal bleeding plus inadequate food substances for blood building.

My impression would be to relate all findings to the gastric ulcer with a possible subdiaphragmatic abscess and pulmonary infection.



Figure 5. Pleural surface of lung revealing lymphatics filled by tumor.

Dr. Delp: What is your opinion regarding the blood findings, Dr. Wilson?

Dr. Wilson (Hematologist): It's hard to comment on the eosinophilia. Malignancy does rarely cause eosinophilia. It can also be caused by Hodgkin's disease or by most diseases in the gastrointestinal tract.

There was extreme difficulty in obtaining marrow tissue. Whenever this occurs, you must examine the tissue obtained very carefully. The cells were of a bizarre type, foreign to the marrow, were syncytial and probably malignant.

#### Pathology Report and Discussion

Gross Findings: There was 50 cc. of thoracic fluid in the right side. Lymph vessels of the thorax were dilated and extruded solid material when cut. The heart weighed 250 grams. The liver weighed

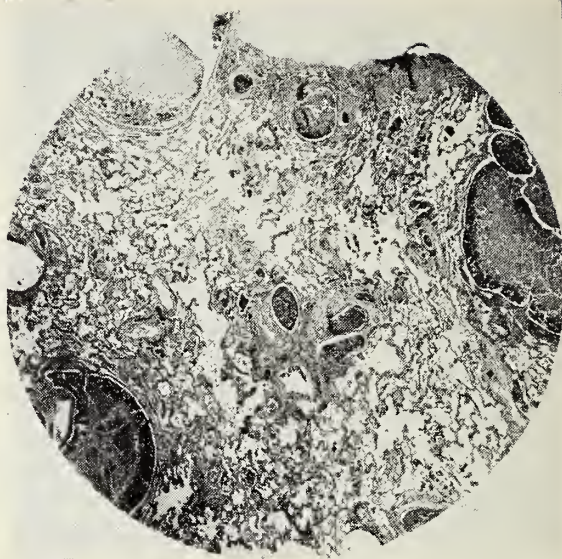


Figure 6. Photomicrograph of pleural surface showing tumor cells in subpleural lymphatics. At the upper border of figure the pleura contains masses of tumor cells in the lymphatics. The central area reveals tumor thrombi in the peribronchial thrombus.

1575 grams and no metastases were seen in it. The spleen was not unusual in weight or appearance. The left ovary contained a small nodule, gray and cellular. The stomach had shallow ulcers of the mucosa with firm lymph nodes on the serosa opposite the ulcers. There were many firm nodes along the aorta, like those on the serosa of the stomach.

Our provisional diagnosis was either a malignancy of the stomach with metastases to the lymph nodes and left ovary or a mycotic infection. We had to wait for the histological examination to determine which of these was present.

Dr. Wahl (Pathologist): Histological examination clinched the diagnosis in this case. There was a widespread neoplastic pneumonia, the lungs being filled with tumor cells. Many sections of the

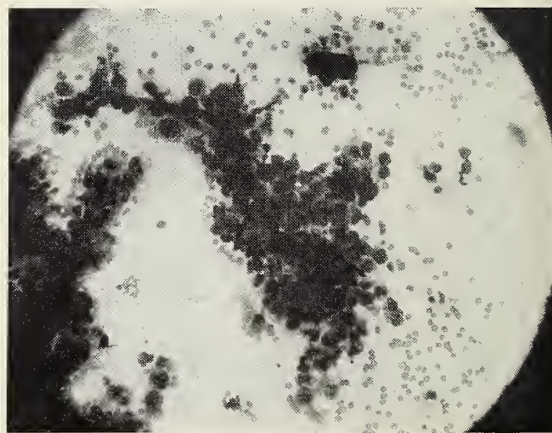


Figure 7. Sternal marrow biopsy. Large aggregates of cells were observed. Vacuolated cytoplasm indicated a secretory organ as probably site of primary tumor.



lung suggested lipoid pneumonia but all sections showed tumor cells.

The primary tumor is the ulcer of the stomach, for it is malignant. The lymph vessels from the stomach were packed with tumor cells, distending the vessels and nodes. There were many signet ring cells and these same cell types were in the ovary. Both ovaries were involved. This is typical of a Krukenberg tumor.

The tumor has invaded the lymph vessels to the pancreas although there were no metastases to the liver. Metastasis occurred only to the lymph nodes, lungs, stomach, ovaries, and pancreas.

There was a diffuse infiltrating tumor tissue in the base of the ulcer. One could almost see mucoid formation but the signet ring cells are plainly visible. I think the ulcer was neoplastic from the start.

In a study of 12,350 autopsies performed here, 547 were cancers of the gastro-intestinal tract. Of these, 130 were in the stomach, 130 in the large intestine not including the rectum, and 45 were in the rectum. This contradicts the popular impression that cancer of the stomach occurs oftener than does cancer of other parts of the intestinal tract. In tumors of the stomach, the lesser curvature, the antrum, and the pylorus are the sites for most.

Willis in his book on tumors puts the incidence of cancer from ulcer at less than five per cent of ulcers. Our figures here would place it at five to ten per cent. The Mayo Clinic figures show that in their experience malignancy proceeds from gastric ulcers very commonly. Out of 547 of our GI tract cancers, 59 had ulceration, four were typical Krukenberg tumors. Metastases were found in 63 per cent.

Dr. Stowell (Oncologist): This case illustrates the unusual findings accompanying a gastric tumor. Although unusual, these manifestations should be kept in mind.

#### Summary

Deserving emphasis is the fact that this patient repeatedly consulted the medical profession telling her story of fear of cancer; and yet, it was not possible to make the diagnosis early enough to save her life. Here is the true picture of why this disease engenders such a feeling of ominousness in its victims and relatives. Here, further, is a vivid portrayal of the extreme difficulty in detection of visceral cancer. The contrary impression only might be gained from popular press material.

This case presented, upon entrance to the hospital, signs and symptoms clearly cardio-pulmonary in character. As seen now, these represented the syndrome of subacute cor pulmonale, a term reserved for widespread neoplastic lymphangitic invasion with encroachment upon the pulmonary bed. Age of the patient and rapidity of onset of pulmonary signs were important factors in obscuring the true patho-

genesis of this phase of the illness. Subacute cor pulmonale is much less frequently seen as a clinical syndrome than the better known acute and chronic varieties but is surely not rare.

The presence of malignant cells, detected by the hematologist on routine bone marrow biopsy, is an interesting and instructive feature.

#### Cosmetics Can Be Dangerous

The steadily increasing use of cosmetics during the past 10 years has resulted in a corresponding increase in reports of skin eruptions due to some ingredient in a cosmetic regularly used by the patient. For more than 20 years the well-established manufacturers of these items have been concerned with this problem and have spent considerable sums of money in order to make certain that no one would become allergic to their products or would develop a skin irritation through usage of the cosmetic.

By insisting on more rigid control of the manufacturing process and a wiser selection of the ingredients to be used, the United States Food and Drug Administration and the American Medical Association have been directing the less responsible producers of cosmetics to give similar consideration to their products before putting them on the market.

Dr. Francis N. Whitacre and Dr. Rita Parcil, of New York City, presented to the members of The American College of Allergists, meeting recently in St. Louis, a condensed summary of this problem for allergists and manufacturers alike.

Their paper listed some 120 ingredients which are now used in cosmetics and cited 81 reports in medical literature of patients who have become allergic to one or another of these substances. This summary should be of great help to the manufacturer in the selection of ingredients, Dr. Fred W. Wittich, secretary-treasurer of the College, pointed out, and should help the allergist identify trouble-makers.

#### Short Term Duty Available in Army

Volunteer reserve officers of the medical corps of the Army may now serve on active duty for periods of from one to 29 days a month, with a maximum of 90 days of active duty per year, according to Special Regulation 140-210-10 of the Department of the Army. The duty will be assigned at an Army installation or activity situated within the vicinity of the officer's home, and no orders will be issued where travel to duty station is involved. However, authorization whereby officers may volunteer as ship's surgeon on an Army transport for a round-trip voyage is given in the regulations. Similar duty is available to reserve officers in the Dental and Veterinary Corps.



---

## KANSAS STATE BOARD OF HEALTH

---

### Teaching Public Health and Preventive Medicine To Medical Students\*

The program of study of public health and preventive medicine in the School of Medicine of the University of Kansas has been designed to give the medical student a broad concept or philosophy of the prevention of disease. The student is taught that preventive medicine comprises those activities that are the direct responsibility of the individual physician in the prevention of disease and the promotion of health for his patients. Thus, a large part of any physician's practice will be preventive in nature.

Public Health, on the other hand, encompasses those activities that are undertaken for the prevention of disease and the promotion of health that are a community-wide responsibility. These are usually group activities conducted by health, welfare, educational departments, medical or lay societies, et cetera. The practitioner should know about these activities because he and his patients frequently need them. He should participate in their organization and in maintaining their excellence because the community wishes to recognize his leadership in all matters of community as well as personal health. The physician should be acquainted with good public health practices and procedures because he may be asked to participate as a part-time health officer, as a member of the advisory committee of one or more voluntary health agencies, as a member of a Board of Health or as a representative of his local medical society on a Community Health Council. One of the objects of instruction in public health and preventive medicine is to provide education in those principles through which, as a physician, one may contribute to the maintenance of health and the prevention of disease in his patients and his community.

Sixteen hours of lecture are given in the second semester of the second year as an introduction to the subject, the purpose being to develop in the medical student a philosophy and perspective of public health and preventive medicine in general. A series of 11 lectures is given in the third year covering public health administration on the federal, state, and local levels in both official and voluntary health agencies. The course in the fourth year is divided into lectures, conference sessions for small groups of students, and field trips. The lectures cover the various phases of public health practice, providing

direction in the interpretation of public health programs and practices. The conferences are discussion groups and cover preventive procedures in the private practice of medicine, with special emphasis upon the community health facilities and services available through the private physician to his patients. Case situations are presented and discussed. The field trips are made largely to observe provisions for environmental sanitation.

Throughout the entire course in public health and preventive medicine, an attempt is made to so guide the student that he will become aware of the social, economic, emotional and environmental factors which are woven into the medical problems of his patients. The medical student, early in his career, has an almost uncontrollable desire to see and examine sick people, to test his ability at diagnosis and treatment. Has the student during this process considered how this case could have been prevented? Has he considered what effect this illness has had on the patient's family or on their economic position in the community?

The private physician is the keystone of any preventive medical program. If the physician develops an awareness or "point of view" of prevention, and strives to the best of his ability to prevent ill health among the families who have chosen him as their physician, then he can truly be called a master of the art of medicine and a respected physician by everyone in the community.

The undergraduate medical student, if given the chance and proper experience, readily recognizes the fact that the emotional, economic, and environmental features of illness are equally as important as the physical feature. An attempt is made to teach him that the four factors are so interwoven in the patient's subjective symptoms that not one can be considered separately to the exclusion of the others. Consequently, the medical student must learn, during his medical education, to recognize these features in every case as they relate to the medical problems. He must learn how to assume the responsibility, either himself or through community health and welfare agencies, for the satisfactory solution of these social problems as a part of the medical diagnosis and treatment. The student must also understand and accept the responsibility for the preventive medical services of his families, for it is not the individual alone but the family which is the social unit. When one member of the family is involved in difficulties of any kind, all are involved.

Dean Franklin Murphy and the entire staff of the Department of Public Health and Preventive Medicine are thoroughly aware of the social problems of medicine. The teaching program must help the students become well informed and oriented in the

---

\*Prepared by E. V. Thiehoff, M.D., Professor and Chairman of the Department of Public Health and Preventive Medicine, University of Kansas School of Medicine.

environmental, emotional and economic aspects of the practice of medicine. This department should furnish only a part of this training and experience for the students. Thus, steps are now being taken to integrate the teaching of the subject of public health and preventive medicine with the teaching in other departments, especially in the Department of Pediatrics. While the Department of Public Health and Preventive Medicine will have the major responsibility, the philosophy of prevention and the implications of public health should pervade other departments. Arrangements have been made for senior students to serve a preceptorship for 11 weeks with general practitioners throughout the state in communities of 2,500 or less. The student will participate in the practice of the physician under whom he is serving. He will also have an opportunity to observe intimately the environment of many of the patients and to become familiar with some of the social and economic problems of both the physician and the patient.

All in all, this department is attempting to train the medical student to take his place of leadership in all health matters in the community where he may practice as a private physician. This is a part of the "back to the grass roots movement" in Kansas, wherein the practicing physician will aid his community to plan their own health programs to meet local needs, problems and interests.

---

## ACTIVITIES OF MEMBERS

---

Dr. Milton B. Miller, Topeka, became a member of the board of directors of the Capitol Federal Savings and Loan Association at a meeting held in January.

\* \* \*

Dr. Thomas P. Butcher, Emporia, addressed the Travelers' Club of that city on the subject of "Socialistic Trends" at a meeting held last month.

\* \* \*

Dr. E. V. Thiehoff, professor of public health at the University of Kansas School of Medicine, was one of six Kansans taking part in the second annual United Nations conference, held at the University of Kansas in January. Three United Nations officials came from Lake Success for the conference.

\* \* \*

Dr. L. Claire Hays of Cedar Vale announces that he will maintain an office in Sedan for part-time practice there.

\* \* \*

Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, was principal speaker at the annual Southeast Kansas Farm, Home and Industrial Conference held at Coffeyville January 25

and 26. Dr. Murphy spoke on the Kansas rural health plan.

\* \* \*

Dr. O. C. McCandless, Marion, gave a talk on health before the Marion P.T.A. in January.

\* \* \*

Dr. Charles H. Johnson, Osawatimie, has been elected president of the Osawatimie Chamber of Commerce for the year 1950.

\* \* \*

Dr. Edwin P. Deal, who has been practicing in Greensburg since 1946, announced last month that he was closing his office to move to Snake Falls, Ontario, Canada.

\* \* \*

Dr. Austin J. Adams, Wichita, was featured speaker at a meeting of the Hypatia Club in Wichita in January. His subject was "Our Emotions."

\* \* \*

Dr. M. C. Newman, Topeka, has announced his retirement from practice. His son, Dr. Cloyce Newman, is taking over his practice.

\* \* \*

Dr. John F. Coyle, Coffeyville, addressed the Rotary Club there on February 7, speaking on the subject of socialized medicine.

\* \* \*

Dr. Lottie Law, Hill City, has announced that Dr. William Smith of Stockton will be in her office every Thursday. Dr. Smith is specializing in obstetrics.

\* \* \*

Dr. William Menninger, Topeka, was one of the speakers at the annual meeting of the Association for Supervision and Curriculum Development in Denver last month.

\* \* \*

Dr. E. L. Cooper, Wichita, recently returned from a trip to England. He reported finding only one person, a member of parliament, who approved of the English system of socialized medicine.

\* \* \*

Dr. Charles H. Miller, Parsons, was speaker at a meeting of persons taking part in the cancer drive in the fifth district of Kansas. The meeting was held at Iola February 6. He also addressed the Labette County Cancer Association at its February meeting on the subject of "You, Time and Cancer."

\* \* \*

Dr. Cecil Snyder, Winfield, addressed the February meeting of the Rosetti Club of that city. His subject was "Socialized Medicine and Newer Developments in Medicine."

\* \* \*

Dr. Thomas C. Ensey, Marion, has announced that he will maintain an office in Florence for practice there two days a week.



### Report of Constitution and Rules Committee

The Committee on Constitution and Rules with the assistance of the attorney for the Kansas Medical Society has worked for a year revising the Constitution and By-Laws. A large number of amendments are offered for consideration by the House of Delegates at the next annual meeting of that body in May. Proposed amendments to the Constitution must be printed twice in the Journal. The proposed amendments to the By-Laws are also added to enable members to study these before they will be acted upon. Comments and suggestions are welcomed and may be directed either to the executive office or to the chairman of the committee. The following report then, as printed in this and the February issue of the Journal, represents the report of the committee of which A. W. Fegtly, M.D., Wichita, Kansas, is chairman.

#### Amendments to the Constitution

1. Article I. Name of this Society. Add—hereinafter called the Society.

2. Article IV. Composition of this Society. Section 2 shall be amended to read:

Section 2. The officers of this Society shall be a president, a president-elect, a first vice president, a second vice president, a secretary and a treasurer. All officers shall be elected by the House of Delegates of this Society for terms of office as are hereinafter provided.

3. Section 5 shall be added to read:

Section 5. The delegates to the American Medical Association shall be those members elected to represent this Society in the House of Delegates of the American Medical Association.

4. Old Section 5, now 6, shall be amended to read:

Section 6. The members of this Society shall be the active members in good standing of the component societies, military service connected members, members on leave of absence, the members in good standing of other societies approved by the Council and the honorary members who are elected as provided by the By-Laws.

5. Old Section 6, now 7, shall be amended to read:

Section 7. Guests properly registered and personally vouched for by a member may be admitted to the scientific work of the annual or called sessions.

6. Article VI. Council. Section 1 shall be amended to read:

Section 1. The Council shall consist of one councilor from each councilor district, and in addition the officers of the Society and the delegates to the American Medical Association as ex-officio members.

7. Section 4 now reads: The president shall serve as the presiding officer of the Council. This section shall be deleted.

8. Article VII. House of Delegates. Section 3 now reads: The president shall serve as the presiding officer of the House of Delegates. This section shall be deleted.

9. Article VIII. District Societies. Now reads: The House of Delegates and the Council may provide for the organization of such district societies as will promote the best interests of the medical profession: Provided, that each district society shall be composed exclusively of members of component societies within that councilor district. This article shall be deleted and subsequent articles renumbered consecutively.

10. Former Article IX now Article VIII. Annual Sessions. Section 1 shall be amended to read:

Section 1. This Society shall hold annual sessions which shall be open to all registered members and guests.

11. Former Article X now becoming Article IX. Terms of Office and Elections. Section 1. The clause "and shall continue until the close of the following annual session" following the definition of terms of office, shall be deleted as superfluous.

12. Former Article X now Article IX. Section 2 shall be amended to read:

Section 2. The officers shall be elected by the House of Delegates at the last meeting of that body in each annual session and in the manner provided by the By-Laws.

Section 3 shall be amended to read:

Section 3. The elections to fill expired regular terms or unexpired terms of councilors shall likewise be held at the last meeting of the House of Delegates of each annual session.

13. Former Article XII now Article XI. Section 2 shall be amended to read:

Section 2. The Council shall elect one of these members as editor of The Journal of The Kansas Medical Society and as chairman of the Editorial Board each year.

14. Former Article XIII now Article XII shall be amended to read:

Funds of this Society shall be raised by an equal annual per capita assessment collected by each component society.

15. Former Article XV now Article XIV. The middle of Section 2 shall be amended by the deletion of the words "diligent and careful" and substituting therefore the word "proper."

#### Amendments to the By-Laws

16. Chapter I. Membership. Section 1 shall be amended to read:

Section 1. The name of a physician appearing on



A large benign chronic ulcer with steep side walls as seen in barium-filled shadow on the lesser curvature of the stomach.



When your patient is on a special diet, as in the management of peptic ulcer, gallbladder disease, obesity, etc., there may be insufficient fecal bulk for encouraging the normal peristaltic reflex.

**METAMUCIL<sup>®</sup>** is the highly refined muciloid of a seed of the psyllium group, *Plantago ovata* (50%), combined with dextrose (50%).

**SEARLE** RESEARCH IN THE SERVICE OF MEDICINE



the properly certified roster of members of a component society which has paid the full amount of his annual assessment, shall be prima facie evidence of membership in this Society.

17. Chapter II. Assessments. Shall be amended to read:

Section 1. The amount of the annual assessment for the Kansas Medical Society only shall be not more than etc., and by the addition of Section 2.

Section 2. Assessments shall include subscription to the Journal of the Kansas Medical Society at a rate determined by the Editorial Board with the approval of the Council.

18. Chapter IV. General Meetings and Sections. Section 3 shall be amended by the elimination of the two words "or commissions."

19. Chapter V. House of Delegates. Section 3 shall be amended to read:

Section 3. Each component society shall elect to the House of Delegates each year one duly qualified delegate and one alternate for every 20 members or major fraction thereof: Provided, that each component society which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to at least one duly qualified delegate. It shall be the duty of the secretary of each component society to send to the executive secretary of this Society a list of delegates and alternates of that society at least 30 days prior to each annual session.

20. Section 5 shall be amended to read:

Section 5. In the event that an elected delegate shall find it impossible to attend an annual or special session of the House of Delegates, his alternate shall qualify himself to the Committee on Credentials to serve instead of the elected delegate. In the event a particular component society is not represented by either delegate or alternate at a meeting of the House of Delegates, that body by majority vote may elect a member of that component society to serve as a delegate for that meeting.

21. Section 9 which details order of business of meetings of the House of Delegates shall be amended in the portion specifying the election of delegate-elect to the American Medical Association by the inclusion of an alternate for that position, making that portion read "delegate-elect and alternate to the American Medical Association."

22. Section 17. That portion which now reads: Alternate or alternates shall be elected each year for two-year terms, who may be certified to substitute for any delegate unable to attend an annual or interim session during his term of office, shall be deleted and a new Section 18 inserted to read:

Section 18. An alternate to the delegate-elect shall be elected each year who shall be certified to sub-

stitute for that delegate in case of removal, resignation, or inability to attend an annual or interim session during his term of office.

Present Section 18 then becomes Section 19.

23. Chapter VI. Election of Officers. A new Section 1 shall be inserted and present Sections 1, 2 and 3 shall be renumbered so as to be Sections 2, 3 and 4 respectively.

Section 1. A Nominating Committee consisting of the immediate past president, two councilors elected by the Council and two delegates in attendance at the last annual session, appointed by the president, shall meet at least 90 days before each annual session and nominate three candidates for president-elect and two or more candidates for each other elective office. Their report shall be presented at the first meeting of the House of Delegates of each annual session.

24. Section 2, becoming Section 3 if Amendment 23 is passed, shall be amended to read:

Section 3. All elections of officers shall be by secret ballot unless a single candidate is nominated for an office, whereupon the vote may be taken viva voce. If upon any ballot on more than two candidates no nominee shall receive a majority, the name receiving the smallest number of votes shall be dropped and the balloting continue in that manner until a majority is obtained. Nominations for all offices may be made from the floor in addition to the recommendations of a nominating committee.

25. Chapter VIII. The Council. Section 1, that portion which now reads: Provided, that the Council or the Executive Committee may not bind this Society in any way beyond the next annual meeting of the House of Delegates, shall be amended to read:

Provided, that the Council or the Executive Committee may not bind this Society in any way beyond the next annual or called meeting of the House of Delegates:

26. Chapter VIII, Section 4 shall be amended to read:

Section 4. The Council is authorized to organize and issue charters to single or multi-county component societies.

Present Section 5 which provides for district societies is hereby deleted. Section 6 is retained, Section 7 becomes Section 5 and Sections 8, 9 and 10 become Sections 7, 8 and 9 respectively.

27. Chapter VIII. Present Section 11 now becoming Section 10 shall be amended to read:

Section 10. In the event of a death, resignation, or removal in the office of second vice president, secretary, treasurer, or a councilor, the Council shall elect a successor to fill the vacancy. At the next annual meeting of the House of Delegates a caucus of delegates from the councilor district affected shall

Physicians'  
choice

*in a wide variety  
of allergic disorders*

TRIMETON

(prophenpyridamine)

*Schering*



TRIMETON



select a councilor to complete the regular three-year term. When such replacement term shall be for two or more years, the member selected shall be eligible to re-election for only one regular term.

28. Chapter VIII. Sections 12 and 13 becoming Sections 11 and 12 shall be condensed to form a new Section 11 to read:

Section 11. The Council shall meet at the conclusion of each annual session and at intervals during the year at the call of the president or on petition of five members of the Council. Adequate notice shall be given as to time and place.

29. Present Section 14 becomes Section 12. It shall be amended to read:

Section 12. Eleven members of the Council shall constitute a quorum.

30. Chapter VIII. Section 15 becoming Section 13 which designates the counties in each councilor district shall be amended at the request of Leavenworth County so that Leavenworth County is removed from the second district and re-assigned to the first district. The composition of all other districts remains as before.

31. Section 16 becomes Section 14.

Section 17 becoming Section 15 delineates the duties of councilors. This shall be amended by the addition of the following paragraph:

Each councilor shall be designated by the president as council representative to certain committees. He shall attend those committee meetings, reporting activities to the Council and when necessary secure Council approval of work undertaken or proposed.

32. Chapter XI. Committees. Section 1. Committees are alphabetically arranged and numbered consecutively. Present Committee on Insurance and Industrial Medicine, No. 29, shall be changed to the Committee on Industrial Medicine and becomes No. 21 and consecutive numbering of following committees is changed.

33. Chapter XI. Present Section 22. Committee on Medical Economics. Wording is amended to conform to present committee assignments as follows:

Section 22. The Committee on Medical Economics shall consist of a least five members. The duty of this committee shall be to investigate matters affecting the status of medical economics including indigent care, border line income conditions for medical care, accident, health and hospital insurance to individuals or groups and Social Security problems, etc. They shall advise the officers and the Council from time to time and the House of Delegates annually as to their findings and recommendations for means by which this Society as a whole, the component societies as units and the members as individuals may improve the economic status of the public and the medical profession. At least two

members of this committee, one of whom is the retiring chairman, shall have served on the retiring committee.

Chapter XI. Present Section 29 to become Section 21 formerly known as the Committee on Insurance and Industrial Medicine shall be amended to read:

Section 21. The Committee on Industrial Medicine shall be composed of at least five members. It shall be the duty of this committee to study and become intimately acquainted with every movement agitated, proposed or attempted to enact or be enacted, that has for its object either secret or avowed the providing of industrial or compensation health, and/or accident medical insurance for public service or commercial employees of persons, companies or corporations either collectively or singly which affects the economic or financial status of the members of this Society, to represent this Society in efforts to secure greater cooperation and greater mutual understanding between medical men and employers of labor or their insurance carriers concerning the rendition of professional services in industrial cases and the amount and character of compensation therefore; to devise and advise whenever intelligent action on the part of this Society is desirable upon these questions and to report in writing its findings, recommendations and information obtained to this Society or to the House of Delegates. A portion of its members and whenever practical the retiring chairman, shall be included in its membership.

35. Chapter XII. Section 14 now reads: The secretary of each component society shall forward the assessment of that society, together with its roster of officers, members and list of non-affiliated physicians to the executive secretary on or before the first day of February of each year. Section 14 shall be amended by the addition of the following:

As a personal convenience to members desiring American Medical Association membership, the secretary of each component society may transmit through the central office of this Society individual checks or funds for membership assessments of that organization.

---

Advertisers in the Journal are carefully selected. Only those meeting our advertising standards may use the facilities of our pages. No advertisement will be accepted which, either by intent or inference would result in misleading the reader. May we suggest that you review the ads in each issue of the Journal and, when occasion arises to prescribe products featured or use the facilities offered, tell them you saw their ad in the Journal of the Kansas Medical Society.

# 50 and 3

## YEARS TREATING ALCOHOL AND DRUG ADDICTION

In 1897 Doctor B. B. Ralph developed methods of treating alcohol and narcotic addiction that, by the standards of the time, were conspicuous for success.

Twenty-five years ago experience had bettered the methods. Today with the advantages of collateral medicine, treatment is markedly further improved.

The Ralph Sanitarium provides personalized care in a quiet, homelike atmosphere. Dietetics, hydrotherapy and massage speed physical and emotional re-education. Cooperation with referring physicians. Write or phone.

*The*  
**RALPH**  
**SANITARIUM**

*Established 1897*

Ralph Emerson Duncan, M.D.  
DIRECTOR



**529 HIGHLAND AVENUE • KANSAS CITY 6, MISSOURI**

Telephone Victor 3624



---

## BLUE SHIELD

---

### Physician Relations

In the spring of 1949, the councilors of the Kansas Medical Society were asked to appoint a physician from each councilor district as a representative to a state-wide Blue Shield Relations Committee. This committee was established and has functioned in a consistent program during the past year.

The Blue Shield Relations Committee serves as a two-way street of communications between the medical profession and the Blue Shield Board of Trustees. Its purpose is two-fold:

1. To broaden the base of understanding of the purposes and methods of operation of Blue Shield.
2. To provide physicians in all areas of the state with an orderly process for shaping the future policies of Blue Shield in line with the wishes of the majority of the profession.

The Blue Shield Relations Committee has not yet received official status as a regular committee of the Kansas Medical Society. However, it has functioned quite effectively so far in an informal capacity. The committee has held three statewide meetings and played an important role in shaping the recent changes in the Blue Shield contract.

Aside from these broad policy-shaping functions, however, the committee has expanded its activities to carry out the idea of the two-way street of communications. Already in five of the 12 councilor districts, members of the statewide committee have been responsible for setting up local district Blue Shield Relations Committees. Meetings of these local district committees have been held in Districts 1, 3, 6, 9 and 12.

What takes place in these district meetings? Perhaps the actual minutes of one of the meetings will show better than any other way the line of the discussion. It should be borne in mind that this is but the first round of meetings. All are agreed that a frequent exchange of ideas and information will lead to a better understanding of the many problems involved as well as to a better solution to many of these problems.

#### Minutes Blue Shield Relations Committee for District VI

Allis Hotel, Wichita, Sunday, January 15, 1950.  
Meetings was called to order at 12:30 p.m.

*Purpose of Committee:* Dr. Whitley called the meeting to order and outlined the purpose of the physician relations program. He pointed out that committees are being formed in each of the councilor districts of the Kansas Medical Society. The purpose of the committee for District VI is to bring

about better communications between the doctors and Blue Shield in this area.

*Inadequate Payments for Complicated Surgery:* Dr. A. L. Ashmore opened the discussion by suggesting that the Blue Shield payments for difficult surgery were too low—or at least out of line. He compared the Blue Shield payment of \$150 for a lobectomy with the payment of \$100 for an appendectomy. It was the consensus that the difference in payment for these two procedures was not commensurate with the difference in the relative difficulties involved.

*Specialist Problem:* The discussion around this point led to some consideration of one of the main unsolved problems in the Blue Shield program, namely, the inability so far of Blue Shield to meet the charges of specialists in the various medical and surgical fields. Some of the questions on this problem:

1. How should specialists be determined?
2. What should the payment differential be?

*Low Income Members:* Dr. J. G. Kendrick said that several complaints had come to him from Wichita physicians to the effect that some Blue Shield members were claiming to be below income when they actually were not. Some of the doctors felt that the Blue Shield office was not handling these complaints properly. A new procedure has been developed by Blue Shield as a result of this complaint.

*Cancellation Problem Discussed:* Dr. Kendrick asked if it was true that for every four new members enrolled three are lost in cancellations. It was answered that the cancellation rate was not that high. The following new enrollment and cancellations for 1949 were reported: new members enrolled, 1949, 118,969; cancellations, 1949, 42,814. However, it was conceded that the cancellation problem is a serious one, general in all the Blue Shield Plans in the U. S.

*Program Doesn't Yet Fit Kansas:* Dr. Claypool felt that we had not yet found a program that fits Kansas. He said that the vast majority of Kansans live in towns below 2,500 population; that our program centers around the use of hospitals. In his own case the nearest hospital is 50 miles away. People resist the Blue Cross-Blue Shield approach because it is contingent on hospitalization.

*Blue Shield Hurts Some Rural Doctors:* This point brought to light the fact that Blue Cross-Blue Shield actually hurts the practice of some rural physicians. They stand to lose patients to other physicians who have hospital affiliations.

*Rural Use of Hospitals High:* Mr. Barham commented on Dr. Claypool's point to the effect that



*in Mixed  
Bacterial  
Genitourinary  
Infections*

Aureomycin is now rapidly becoming recognized as a drug of choice in the treatment of mixed bacterial genitourinary infections, particularly those in which *Escherichia coli* and *Aerobacter aerogenes* play a part. Intractability of a genitourinary infection is an especial indication for aureomycin.

Aureomycin has also been found highly effective for the control of the following infections: African tick-bite fever, acute amebiasis, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, acute brucellosis, Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), Gram-negative infections (including those caused by the *coli-aerogenes* group), granuloma inguinale, *H. influenzae* infections, lymphogranuloma venereum, peritonitis, primary atypical pneumonia, psittacosis (parrot fever), Q fever, rickettsialpox, Rocky Mountain spotted fever, subacute bacterial endocarditis resistant to penicillin, tularemia and typhus.

## **AUREOMYCIN** HYDROCHLORIDE LEDERLE

**Capsules:** Bottles of 25, 50 mg. each capsule. Bottles of 16, 250 mg. each capsule.

**Ophthalmic:** Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.

# AUREO- MYCIN



our rural members use hospitals about 25 per cent more than our employed group members who mostly live in towns.

*Recurrent Theme:* Nevertheless, there has been a recurrent theme in all of our district meetings that the Blue Shield program still fails to meet some important objections of rural physicians. Repeatedly, there has been mention of the "catastrophic home illness," such as acute coronary, pneumonia, etc.

*Blue Shield Payments About Two-Thirds the Average Charge:* Dr. Wells asked what would happen if the participating physicians were polled on their opinions of the Blue Shield schedule of payments. In answer it was stated that a partial survey had been made through the State-wide Blue Shield Relations Committee. This survey indicated that the Blue Shield payments averaged about two-thirds of the prevailing charges throughout the state. However, there were variations in some areas sufficiently great to cause concern as to the adequacy of the Blue Shield program in meeting people's needs.

*Meetings With County Medical Societies:* Mr. Redd suggested that the next step in the physician relations program for District VI was a series of meetings with county medical societies. He said that the base of understanding of Blue Shield must be broadened to reach the individual physician. Members of the committee were asked to arrange for a Blue Shield staff member to speak briefly at a meeting of each county society in the district.

The meeting adjourned at 3:30 p.m.

### Allergic Arthritis

For the last 40 years according to Dr. Jonathan Forman, president of the American College of Allergists, physicians throughout the world have from time to time found persons whose joints became swollen, hot, and painful following the eating of certain foods or taking certain drugs. While the number of these cases is by no means large, they are significant, Dr. Forman said.

He stresses the importance of the observations of Dr. Jerome Miller, Philadelphia, in the July-August issue of the *Annals of Allergy*, the official publication of The American College of Allergists. Dr. Miller in this article has collected the various reports on allergic arthritis which have appeared and added three new cases of his own.

Today many physicians are in agreement with Dr. Miller that at least certain types of arthritis are caused by an allergy to foods and that a certain number of patients with inflamed, painful joints give a history that they themselves or members of their

family have had other allergies such as hay fever, sinus trouble, asthma, hives, eczema, or migraine headaches. Patients with any of these allergies who suffer from arthritis should suspect that the latter may be allergic in origin. Dr. Miller indicates the many laboratory tests which help to exclude causes other than allergy, as well as a few that help to identify the nature of the arthritis. When all this evidence has been correlated and sufficient proof is lacking that the arthritis is caused by some other factor, one is justified in using special elimination diets for identifying the offending food.

### Plan for Confidential Birth Records

Details of a plan to protect birth records were released recently in a Children's Bureau publication, "The Confidential Nature of Birth Records." The plan was worked out by the American Association of Registration Executives and the Council on Vital Records and Vital Statistics.

Official endorsements of the plan have been received from the American Medical Association, the American Public Health Association, the Children's Bureau and the National Office of Vital Statistics.

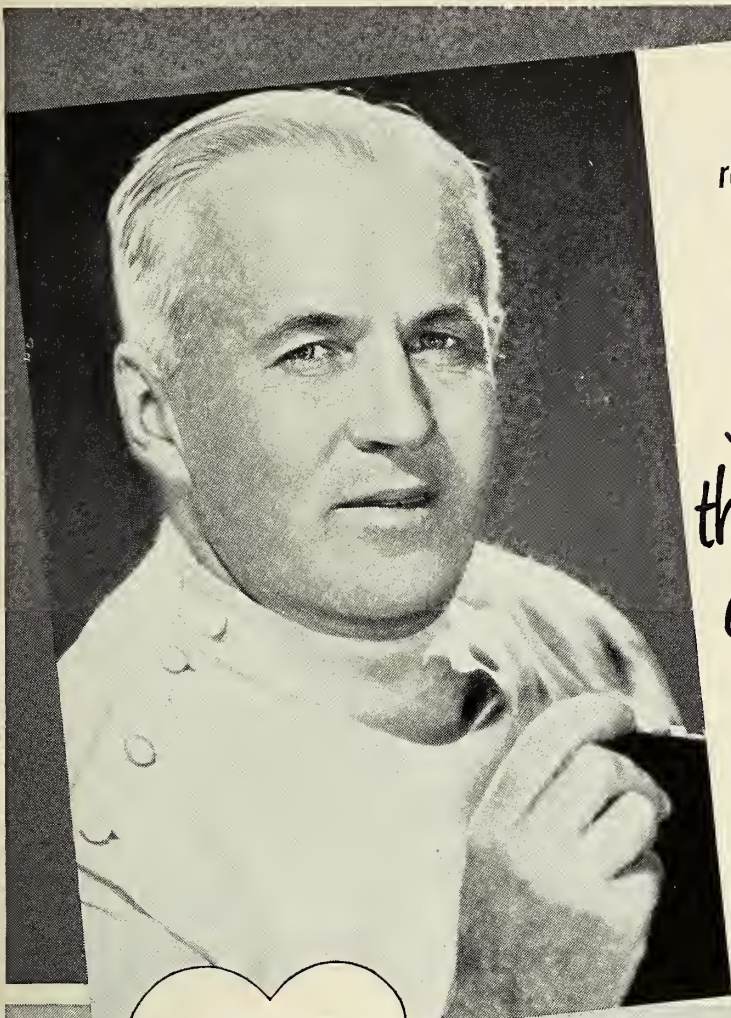
Designed to protect the privacy of all citizens, the recommended new practices will be of special benefit to children born out of wedlock, adopted children, or those whose parents happened to be in an institution at the time of the child's birth. Under the new proposal, only the person registered, his parents, accredited health and welfare agencies, or individuals authorized by court order would have access to data on the birth certificate customarily filed by doctors and other attendants at birth. The birth card provided each individual would show only the name, sex, date and place of birth and registration date.

A number of states have already instituted the use of birth cards, and others, including Kansas, will soon begin the use of the cards. These states have also adopted the standard certificate and have taken steps to keep their records confidential.

### Length of Life Increases

The average length of life in the United States has increased to 67.2 years, according to a recent compilation of mortality statistics for 1948 by the National Office of Vital Statistics. This figure is 0.4 years above the 1947 average, computed from the death rates at the various ages.

In every age group the death rates for males are higher than those for females, and, except for the age groups over 75, they are higher for the non-white population than for the white population.



Throat Specialists  
report on 30-day test  
of Camel smokers:

*"Not one  
single case of  
throat irritation  
due to smoking  
**Camels**"*

Yes, these were the findings of throat specialists after a total of 2,470 weekly examinations of the throats of hundreds of men and women who smoked Camels—and only Camels—for 30 consecutive days.

I MADE THE 30-DAY TEST AND MY DOCTOR'S REPORT WAS NO SURPRISE TO ME! I KNOW **CAMELS** ARE MILD—MY THROAT TOLD ME SO WITH EVERY PUFF AND EVERY PACK!



*Elana O'Brian*

Real-estate broker Elana O'Brian, one of the hundreds of people from coast to coast who made the 30-day Camel mildness test under the observation of throat specialists.

R. J. Reynolds Tobacco Company, Winston-Salem, N. C.

According to a Nationwide survey:  
**MORE DOCTORS SMOKE CAMELS**  
than any other cigarette

Yes, doctors smoke for pleasure, too! In a nationwide survey, three independent research organizations asked 113,597 doctors what cigarette they smoked. The brand named most was Camel.



### Warns Against Overfeeding Children

Children may be overfed vitamin A and D concentrates with a resultant poisoning and crippling, a New York doctor warned recently.

Dr. John Caffey of the College of Physicians and Surgeons, Columbia University, and the Babies Hospital in New York City, delivered the warning in a report at the 50th annual meeting of the American Roentgen Ray Society at Cincinnati. Dr. Caffey cites seven cases of infants and younger children being poisoned because of the overenthusiasm of mothers for vitamins and ignorance of the dangers of a high vitamin intake.

"The hazards of vitamin A poisoning from the routine feeding of vitamin concentrates A and D to healthy infants and children are considerably greater than the hazards of vitamin A deficiency in healthy infants and children not fed vitamin concentrates," he said.

He reported that toxic effects resulted from three types of vitamin A and D concentrates when taken in sufficiently large quantities and over a sufficiently long period. The children suffered from painful swelling, particularly in the feet and arms. There was a limitation of motion and the children showed excessive irritability. Rapid recovery occurred when the feeding of the concentrates was discontinued. He said:

"Apparently it is not an uncommon practice for mothers to stop measuring vitamin concentrates accurately, drop by drop, soon after they start its use. To save time, the estimated dosage is poured directly from the bottle into a teaspoon. Under these circumstances the error of estimate appears to be invariably in the direction of overdosage.

"The parental reasons for giving toxic doses are interesting and important. In one case, the mother simply decided that if a smaller amount of the concentrate was good for the baby's bones a larger amount would be better.

"One grandmother increased the dosage to make sure she was doing a better job at prophylaxis than the mother was doing. In two cases the reasons for higher dosage were never satisfactorily explained. Apparently these mothers, ignorant of potential dangers, increased dosage in the blind belief that plenty of vitamins would promote the health of their children. In two instances dosage was increased and then toxic doses were continued in the hope of combating and preventing upper respiratory infections.

"In another case, not reported in this group, the mother stated that her infant had developed such a fondness for the concentrate that she had to feed one teaspoonful daily to keep the baby satisfied. In another instance the mother was unwittingly feeding a concentrate instead of cod liver oil."

Dr. Caffey added that in no case was the overdosage due to erroneous advice by a physician or erroneous labeling of the bottle by the manufacturer. However, he urged manufacturers and pediatricians to warn mothers of the dangers of excess feeding.

He also told of the toxicity of polar bear liver to arctic travelers, Eskimos and their dogs, apparently the result of the high content of vitamin A. Several parties of explorers have been poisoned in this fashion and a number of deaths have been reported, he said.

---

### Three Awards Announced

Three awards for medical writing were announced recently, one by the American College of Chest Physicians, the second by the National Gastroenterological Association, and the third by the Schering Corporation.

An award of \$250 will be paid by the American College of Chest Physicians for the best original contribution on any phase of chest disease. Manuscripts may be submitted as late as May 1, 1950. Complete information may be secured from the secretary of the college, 500 North Dearborn Street, Chicago 10, Illinois.

Essays on gastroenterology or allied subjects will be accepted by the National Gastroenterological Association, 1819 Broadway, New York 23, New York, in competition for a prize of \$100 and a certificate of merit. Manuscripts are limited to 5,000 words, and the deadline for submitting entries is June 1, 1950.

Cash awards of \$1,000, \$500 and \$300 are offered by the Schering Corporation for the best essays on "The Clinical Use of Steroid Hormones in Cancer." The contest is open to medical students in the United States and Canada.

---

### Two Groups Merge

Preliminary steps for merging the American Foundation for High Blood Pressure with the American Heart Association have been approved by the boards of both groups in recent meetings. The staffs of both groups will undertake a joint study to recommend methods of integrating personnel and operations, and when such arrangements have been mutually approved the Foundation will dissolve.

The high blood pressure group will become a section of the American Heart Association's Scientific Council and will be known as the Council for High Blood Pressure Research. Other sections now within the Association are the Section on Circulation and the American Council on Rheumatic Fever.



# ONLY KOROMEX

**OFFERS THE DOCTOR ALL OF THE ITEMS TO  
MEET PATIENTS' INDIVIDUAL REQUIREMENTS  
WHERE CONCEPTION IS CONTRA-INDICATED**

Co-incident with this advertisement, many of the large page advertisements in our March publications will illustrate the entire Holland-Rantos line . . . complete to the physician's exacting needs . . . and available in the drugstore. > > > For a free copy of a fully illustrated reprint of this whole line write to Holland-Rantos



## KOROMEX

®

"A CHOICE OF PHYSICIANS"



HOLLAND-RANTOS COMPANY, INC., 145 HUDSON STREET, NEW YORK 13, N. Y.

MERLE L. YOUNGS • PRESIDENT



## ABSTRACTS FROM CURRENT LITERATURE

### Pulmonary Embolism

*Pulmonary Embolism, its Incidence, Significance, and Relation to Antecedent Vein Disease.* By Leo M. Zimmermann et al, *S.G.O.*, 88: 373, March 1949.

On the basis of 5,588 autopsies the incidence of fatal pulmonary embolism was 77, or one in 2,000 major operations (0.05 per cent). This is in contrast with figures from the Massachusetts General Hospital where Dr. A. W. Allen reports 26 cases of fatal pulmonary embolism in 458 major operations, (5.6 per cent), about 100 times as frequent.

They note that the incidence of pulmonary embolism from thrombophlebitis is rare. "Fatal emboli are almost always the result of a phlebothrombosis and almost invariably arise from the veins of the lower extremities."

Their management includes ligation of the superficial femoral vein, unilaterally for unilateral signs of phlebothrombosis, or bilaterally if the findings so indicate, or in the presence of embolism without leg findings. This reviewer would raise the question of phlebothrombosis of the pelvic veins in such an instance.

Anticoagulant therapy, including both heparin and dicumarol, is employed both after ligation and in cases of phlebitis, ligation not being done here. This is to prevent super-imposed phlebothrombosis and embolism.

Early exercise, after thrombosis is evident, is used along with the foregoing treatment, and elastic bandages are employed.—*T.P.B.*

\* \* \*

### Methemoglobinemia

*Methemoglobinemia.* By G. W. Walliker and E. H. Baxter, *Arch. Ped.*, 66:4, 143-156, April, 1949.

Methemoglobinemia is an alarming condition and can rapidly lead to death unless the etiology of the cyanosis is suspected. It may result from the ingestion, inhalation, or absorption through the skin of the following substances: potassium chlorate, bismuth subnitrate, sulfonamides, antigas ointment, crayons, well water containing nitrates, aniline, nitrobenzene, acetanilide, aminophenols, antipyrin, ferricyanides, shoe dyes, perfumery, artificial flavorings, acetophenacetin, plasmochin, phenylhydrazine, sulfonal, pyrogalllic acid and methylene blue. Cases of familial idiopathic methemoglobinemia have been reported.

Generally the diagnosis is not made until the cyanosis fails to disappear under oxygen therapy, or the chocolate color of the blood is noted on exam-

ination. By the spectroscopic examination of the blood the presence of an absorption band in the red region of the spectrum can be dissipated by the addition of cyanide or alkali.

Methylene blue should be given intravenously for rapid effect, the recommended dosage being 1.5 to 3.0 mg. per kg of body weight. Frequently higher dosage is necessary. The drug can be used orally as an adjunct to parenteral therapy. The oral route is only one-tenth as effective.—*D.R.D.*

\* \* \*

### Suture of Peripheral Nerves

*Suture of Peripheral Nerves.* By John W. Kirklin, Francis Murphey and Joseph Berkson, *S.G.O.*, 88:6, 719-730.

Report is made on a series of 2,849 military patients who had 3,276 injuries to peripheral nerves. Analysis of results with respect to recovery of motor and sensory function reveals that best results are obtained when an injured nerve is sutured within three months after injury and that a reasonable amount of recovery may be expected when operation is performed within nine months. Results that are inferior, but in some instances worthwhile, may be expected in cases coming to surgery 10 to 15 months after injury.

Recovery is better in the larger muscles than in the small muscles such as those in the hand, and it is in the latter group that early repair is most important.

Complete recovery is rare under any circumstances.

End-to-end anastomosis is preferable to nerve grafts. No advantage is found in wrapping the anastomosis in tantalum foil. Some improvement is to be noted from nearly every nerve suture, and this should encourage the surgeon to attempt repair, even against serious odds.—*T.P.B.*

### Grant for Study of Water Pollution

Kansas has received a federal grant of \$13,697 for studies of water pollution resulting from industrial wastes, according to a recent release from the Federal Security Agency. This is part of a total of \$891,487 allowed to state and inter-state agencies for a nation-wide study.

Health education and health services go hand in hand. Singly, they cannot do an effective job. Together, they complement each other and form an invaluable adjunct in the over-all health program. Health education without opportunities for medical consultation is sterile. Likewise, medical services exist in a vacuum unless they are called to the attention of the people. *Tula Salpas, USPHS, Indust. Hyg. Newsletter, Aug., 1949.*

*THE JOURNAL*  
*of the*  
*KANSAS MEDICAL SOCIETY*

*Owned and Published by The Kansas Medical Society*

---

Volume LI

APRIL, 1950

No. 4

---

*Greetings*

Members of the Sedgwick County Medical Society are hosts for the 91st meeting of the Kansas Medical Society in Wichita on May 15-18, 1950.

The chairman and members of all committees have devoted much time and effort in preparation for this meeting and have been successful in securing guest speakers of distinction in their fields.

We extend a most cordial invitation for you to attend the scientific sessions, visit the booths of the exhibitors, and take part in the activities and entertainment which have been planned for your pleasure.

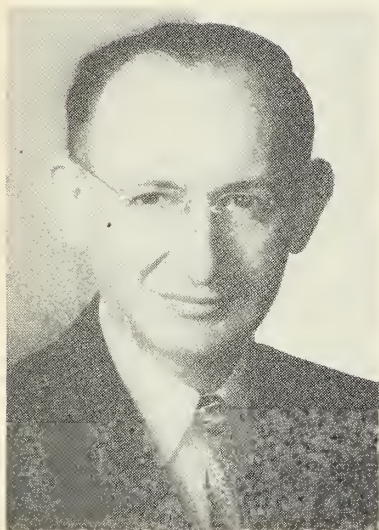
WELCOME TO WICHITA!

Earl L. Mills, M.D., President

Sedgwick County Medical Society



## *Guest Speakers*

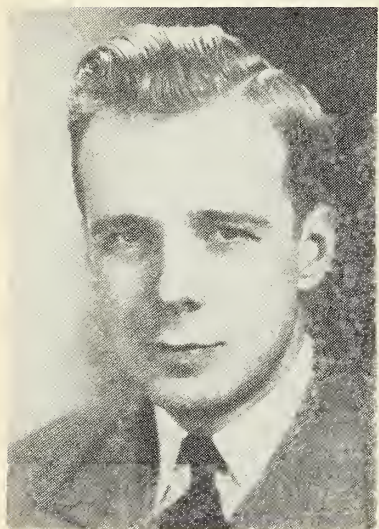


JOHN ADRIANI, M.D.

*New Orleans, Louisiana*

Graduate, Columbia University School of Medicine, 1934; Associate Clinical Professor of Surgery, Louisiana State University; Assistant Professor in Anesthesiology, Loyola School of Dentistry; Diplomate, American Board of Anesthesiology; Fellow, American College of Anesthesiologists and Member, Board of Governors 1945-1950; Editor, Anesthesiology Section, American Lecture Series; Distinguished Service Award by American Society of Anesthesiologists for 1949.

Specialty: Anesthesiology.



JAMES FREDERICK BOSMA, M.D.

*Salt Lake City, Utah*

Graduate, University of Michigan School of Medicine, 1941; Assistant Professor in Pediatrics, University of Minnesota, 1949; Professor and Head, Department of Pediatrics, University of Utah; Interests, Growth and Development of the Infant and Child, Pathological Mechanisms Involved in Bulbar Poliomyelitis.

Specialty: Pediatrics.

**GRAYSON LEWIS CARROLL, M.D.***St. Louis, Missouri*

Graduate, University of Texas School of Medicine, 1919; Assistant Professor of Urology, St. Louis University School of Medicine; Head, Department of Urology, St. Louis City Hospital; Consultant Urologist, Koch Hospital and Frisco Hospital; Diplomate, American Board of Urology and Member, Examining Board; Chairman, Section of Urology, American Medical Association, 1947; Past President, South Central Section, American Urological Association; Associate Editor, Journal of Urology.

Specialty: Urology.

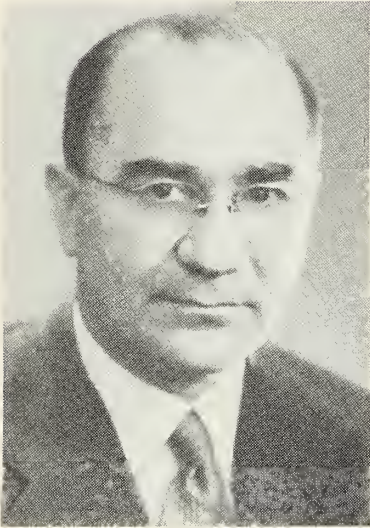
**JULES VICTOR COLEMAN, M.D.***Denver, Colorado*

Graduate, Medizinische Fakultät der Universität, Wien, 1934; Professor of Psychiatry and Head of Mental Hygiene Division, University of Colorado Medical School; Consultant, Winter Veterans Administration Hospital, Topeka; Consultant, Fitzsimons General Hospital and National Jewish Hospital, Denver; President, American Association of Psychiatric Clinics for Children.

Specialty: Psychiatry.





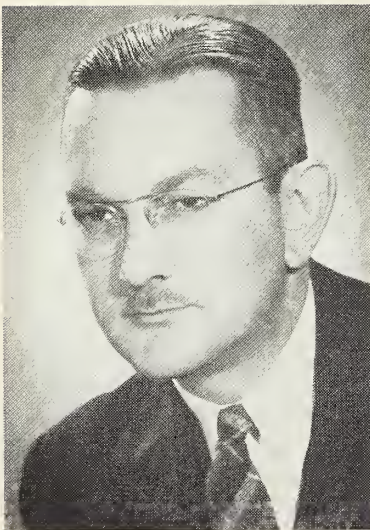


VIRGIL SHEETZ COUNSELLER, M.D.

*Rochester, Minnesota*

Graduate, Rush Medical College, 1920; Professor of Surgery, University of Minnesota, Mayo Foundation; Chief of Surgical Gynecology, Mayo Clinic; Diplomate, American Board of Surgery; Fellow, American College of Surgeons; Member, American Association of Obstetricians, Gynecologists and Abdominal Surgeons, American Urological Association, Western Surgical Association.

Specialty: Surgery.



JOHN CHENAULT LONG, M.D.

*Denver, Colorado*

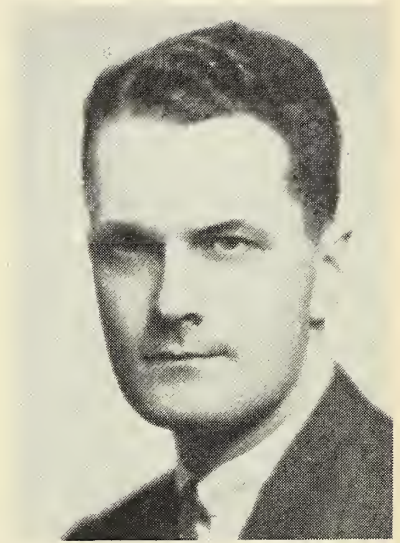
Graduate, University of Colorado School of Medicine, 1931; Assistant Clinical Professor of Ophthalmology, University of Colorado; Director, Ophthalmic Laboratory, University of Colorado; Consulting Ophthalmologist, Colorado Department of Public Welfare; Diplomate, American Board of Ophthalmology.

Specialty: Ophthalmology.

**CYRIL MITCHELL MACBRYDE, M.D.***St. Louis, Missouri*

Graduate, Harvard Medical School, 1930; Associate Professor of Clinical Medicine, Washington University Medical School; Director, Metabolism and Endocrine Divisions, Barnes Hospital; Diplomate, American Board of Internal Medicine; Fellow, American College of Physicians; Member, American Diabetes Association, Association for Study of Internal Secretions, American Society for Clinical Investigations; Author, Textbook, "Signs and Symptoms," Lippincott, 1947.

Specialty: Internal Medicine.

**PAUL McNARY MOORE, M.D.***Cleveland, Ohio*

Graduate, University of Michigan Medical School, 1922; Posts, Eight Years Assistant Professor Otolaryngology, State University of Iowa College of Medicine, Chief of Department of Otolaryngology, Cleveland Clinic Foundation; Diplomate, American Board of Otolaryngology; Member, American Broncho-Esophagological Association, American Laryngological, Rhinological and Otological Society, American Academy of Ophthalmology and Otolaryngology.

Specialty: Otolaryngology.





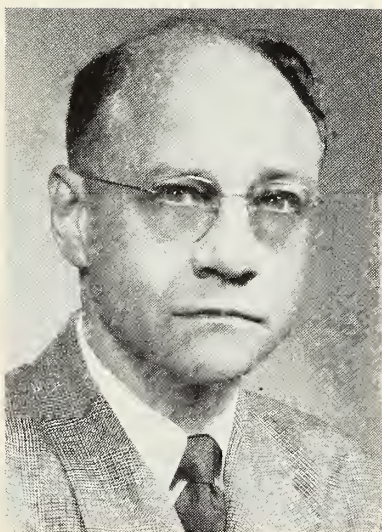


SAMUEL BERNARD NADLER, M.D.

*New Orleans, Louisiana*

Graduate, Tulane Medical School, 1936; Director, Joseph Hume Research Laboratory, Touro Infirmary; Senior Physician, Department of Medicine, Touro Infirmary; Diplomate, American Board of Internal Medicine; Fellow, American College of Physicians; Member, American Diabetes Association, Society for Experimental Biology and Medicine.

Specialty: Internal Medicine.



EDWARD NEEDHAM SMITH, M.D.

*Oklahoma City, Oklahoma*

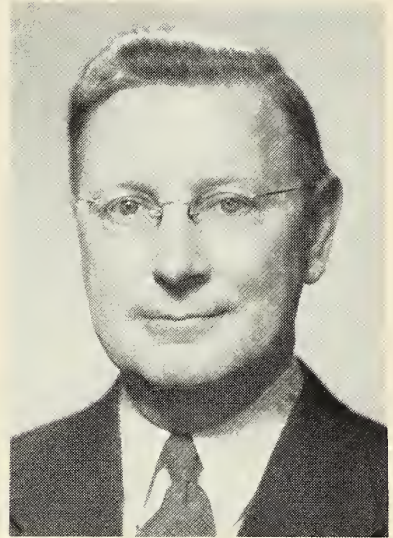
Graduate, University of Pennsylvania School of Medicine, 1927; Associate Professor of Obstetrics, University of Oklahoma School of Medicine; Consultant, Oklahoma State Department of Health; Diplomate, American Board of Obstetrics and Gynecology; Doctor of Medical Science, Columbia University, 1937.

Specialty: Obstetrics and Gynecology.

**HAROLD AUGUSTUS SOFIELD, M.D.***Chicago, Illinois*

Graduate, Northwestern University Medical School, 1929; Associate Professor of Bone and Joint Surgery, Northwestern University; Chief Surgeon, Shriners' Hospital for Crippled Children; Senior Consultant, Department of Orthopedic Surgery, Veterans Administration Hospital, Hines, Illinois; Chairman, Subcommittee of Orthopedic Surgery, National Research Council; Senior Consultant in Orthopedic Surgery to the Surgeon General of the U. S. Army; Diplomate and Secretary, American Board of Orthopedic Surgery.

Specialty: Orthopedics.

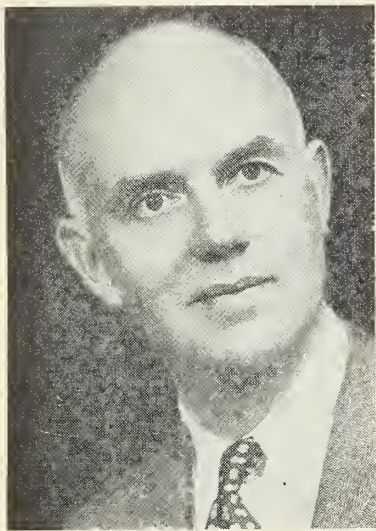
**SLOAN JACOB WILSON, M.D.***Kansas City, Kansas*

Graduate, University of Kansas School of Medicine, 1936; Assistant Professor of Medicine, University of Kansas School of Medicine; Diplomate, American Board of Internal Medicine; Fellow, American College of Physicians, International Society of Hematology; Member, American Association of Blood Banks, Society for Experimental Biology and Medicine.

Specialty: Internal Medicine and Hematology.







ARTHUR ROBERTSON WOODBURNE, M.D.

*Denver, Colorado*

Graduate, University of Michigan School of Medicine, 1927; Military Service, Chief, Dermatologic Section, Fitzsimons General Hospital, 1942-1946; Assistant Clinical Professor of Dermatology and Syphilology, University of Colorado; Consultant Dermatologist, Fitzsimons General Hospital; Diplomate, American Board of Dermatology and Syphilology; Member, American Dermatologic Association, American Academy of Dermatology.

Specialty: Dermatology.

## *Committee Chairmen*

Wichita, Kansas

May 15-18, 1950

General Chairman—Dr. Clyde W. Miller

Scientific Program.....	Dr. J. P. Berger	Publicity.....	Dr. L. A. Donnell
Entertainment.....	Dr. L. K. Nix	Reception .....	Dr. R. H. Maxwell
Technical Exhibits .....	Dr. E. S. Brinton	Auxiliary.....	Dr. D. Cramer Reed
Scientific Exhibits.....	Dr. J. B. Fisher	Housing .....	Dr. G. R. Tonn

Arrangements—Dr. B. P. Meeker

## *Schedule of Events*

### 91ST ANNUAL SESSION

Wichita, May 15, 16, 17, 18, 1950

#### Sunday, May 14

- 12:00 Annual Meeting, Board of Directors, Kansas Physicians' Service  
Allis Hotel, East Room

#### Monday Morning, May 15

- 10:00 Practice Rounds, Kansas Medical Golfing Association  
Rolling Hills Golf Course, 5828 Maple
- 10:00 Practice Shooting, Kansas Medical Skeet and Trapshooting Association  
Ark Valley Gun Club, 5400 East Pawnee

#### Monday Afternoon, May 15

- 1:00 Competitive Golfing, Kansas Medical Golfing Association  
Rolling Hills Golf Course, 5828 Maple
- 1:00 Competitive Shooting, Kansas Medical Skeet and Trapshooting Association  
Ark Valley Gun Club, 5400 East Pawnee
- 3:00 Viewing of Exhibits by Kansas Medical Assistants' Society  
Forum, North Entrance

#### Monday Evening, May 15

- 7:00 Tournament Banquet  
Broadview Hotel, Bamboo Room  
Awarding of prizes for golf and trap shoot  
Election of officers



## Tuesday Morning, May 16

- 7:30 Breakfast, Blue Shield Relations Committee  
Allis Hotel, West Room
- 8:00 Registration  
Forum, North Entrance  
Open 8:00 A.M. to 5:00 P.M.  
Opening of Scientific and Technical Exhibits

### FIRST GENERAL SESSION

Arcadia Theater, Forum

*Presiding: Haddon Peck, M.D., St. Francis, Kansas*

- 9:00 Address of Welcome  
*Earl L. Mills, M.D., Wichita, Kansas*  
*President, Sedgwick County Medical Society*
- 9:15 Greetings  
Mayor of Wichita, Kansas
- 9:30 A Discussion of the Increasing Indications for Vaginal Hysterectomy and the Surgical Technique  
*Virgil Sheetz Counsellor, M.D., Rochester, Minnesota*  
There are many reasons for the renewed interest in vaginal hysterectomy as the operation of choice over abdominal hysterectomy in some instances and also in cases in which formerly various types of vaginal plastic operations may have been performed. The safety of the operation is one of its greatest assets and the mortality rate is almost nil. The surgical technique to be presented is the same as total abdominal hysterectomy except it is done in the reverse order. Lantern slides.
- 10:05 Treatment of Diabetic Acidosis and Coma  
*Cyril Mitchell MacBryde, M.D., St. Louis, Missouri*  
The best treatment is prevention, with known diabetes so regulated that ketosis and polyuria are avoided and hyperglycemia and glycosuria are kept at a minimum. Nowadays coma is most often seen in persons not previously known to be diabetic. Early recognition and prompt, adequate treatment are imperative, with insulin, fluid and electrolytes. Size of initial doses of insulin, amounts and types of fluid, amounts of sodium, when and when not to use intravenous glucose, will be discussed; also newer knowledge concerning need of potassium in certain cases.
- 10:35 Intermission to Visit Exhibits

### SECOND GENERAL SESSION

*Presiding: J. Allen Howell, M.D., Wellington, Kansas*

- 10:50 Anesthetic Accidents  
*John Adriani, M.D., New Orleans, Louisiana*  
This will be a discussion of the accidents that result from either technical mismanagement of anesthesia or from properties inherent in the drugs. Ways of avoiding such accidents will be stressed, with suggestions for taking care of them if they occur.

## Tuesday Morning, May 16—(Continued)

### 11:25 Lupus Erythematosus

*Arthur Robertson Woodburne, M.D., Denver, Colorado*

A consideration of the various types of lupus erythematosus with a color slide presentation of the various forms. There will be a discussion of the disease in its many manifestations on the skin and the various internal organs with a consideration of the entire clinical picture in the chronic, subacute and acute disseminate varieties, pointing out particularly the differences in clinical findings in general and laboratory examinations and discussing suitable treatment in the various forms of the disease.

### 12:15 Combined Luncheon—Meeting on Diabetes Mellitus

Forum Annex

*Presiding: J. P. Berger, M.D., Wichita, Kansas*

## Tuesday Afternoon, May 16

### THIRD GENERAL SESSION

Arcadia Theater, Forum

*Presiding: Ralph J. Metcalf, M.D., El Dorado, Kansas*

### 2:00 Criteria of Nutrition in Infancy

*James Frederick Bosma, M.D., Salt Lake City*

A major advance in the field of pediatric nutrition is provided by the growth calibration systems which are no longer esoteric or difficult of understanding and are applicable to the practice of the care of children by physicians. By observing the growth of infants on such a system it is possible to detect malnutrition much earlier than heretofore and thus to estimate the clinical status of the patient. The patient who is well has a normal quality of growth and development; the patient who is ill has other primary manifestations of his illness, failure to grow and develop as he should.

### 2:35 Treatment of Urinary Infections—A Discussion of Antibiotics and Chemotherapeutic Agents

*Grayson Lewis Carroll, M.D., St. Louis, Missouri*

The recent introduction of potent antibiotics and chemotherapeutic agents has created some confusion as to the proper drug to select in each case. An effort is made to clarify this situation based on a rather thorough study recently completed.

No one agent was found effective in all types of infection. Identification of the organism in chronic infections especially is necessary. The choice of drug for each organism commonly found is suggested. The dosage, the pH and the mode of administration to obtain the best value of each drug is discussed. Chloromycetin, aureomycin, terramycin, gantrisin and streptomycin and penicillin are included in this survey.

### 3:05 Intermission to Visit Exhibits



## Tuesday Afternoon, May 16—(Continued)

### FOURTH GENERAL SESSION

*Presiding: William G. Weston, M.D., Arkansas City, Kansas*

#### 3:20 Significance of Recent Studies with ACTH and Cortisone

*Cyril Mitchell MacBryde, M.D., St. Louis, Missouri*

Recent work with two hormones, one from the pituitary and one from the adrenal cortex, gives new insight into disease mechanisms and a new type of therapy for many disorders. Relief occurs in rheumatoid arthritis, rheumatic fever, many allergic disorders, in some acute infections and other stress states and even in certain psychic disorders and neoplastic diseases.

The metabolic effects of ACTH and cortisone will be analyzed, the possible undesirable effects will be discussed and probable indications and contraindications for the stimulatory (pituitary) and substitution (adrenal cortex) hormone therapy will be presented.

The physiological mechanisms by which these hormones affect such a wide variety of diseases will be analyzed (such as mesenchymal defense system in cells and circulating antibodies, and effects on hyaluronidase, the "spreading factor" in tissues).

#### 3:55 Barbiturates as an Adjunct to Surgery and Anesthesia

*John Adriani, M.D., New Orleans, Louisiana*

This will be a description of the general properties of the barbiturates, how they are to be used, and which type should be selected for a given purpose. Many types are available, and the importance of selecting the correct type for the purpose cannot be over-estimated.

## Tuesday Evening, May 16

#### 6:30 Dinner Meeting, House of Delegates

Allis Hotel, Ballroom

#### 6:30 Dinner for Women Physicians of Kansas Medical Society

Innes Tea Room

#### 7:00 Banquet, Kansas University Medical Alumni Association

Broadview Hotel, Bamboo Room

Telephone Number at the Forum — 7-5353

## Wednesday Morning, May 17

- 7:00 Breakfast, Kansas Academy of General Practice  
Allis Hotel, Empire Room  
Committee reports, election of officers, installation of president, response, open forum. All general practitioners, whether members or not, will be welcome.
- 7:30 Breakfast, EENT Group  
Lassen Hotel, Army and Navy Room
- 8:00 Breakfast, Kansas Radiological Society  
Broadview Hotel, Room 108
- 8:30 Registration  
Forum, North Entrance  
Open 8:30 A.M. to 5:00 P.M.

### FIFTH GENERAL SESSION

Arcadia Theater, Forum  
*Presiding: Earl L. Mills, M.D., Wichita, Kansas*

- 9:00 Address of President of Kansas Medical Society  
*Haddon Peck, M.D., St. Francis, Kansas*
- 9:30 Problems of Emotional Disturbance in Pediatric Patients  
*Jules Victor Coleman, M.D., Denver, Colorado*  
This will be a consideration of the common problems of a psychological nature encountered in practice with children. Present-day thinking on etiology and management will be presented.
- 10:05 The Problem of the Prostate Gland  
*Grayson Lewis Carroll, M.D., St. Louis, Missouri*  
Investigative and clinical work recently performed has brought out facts which are important to the clinical management of the prostate gland. These are discussed from a practical viewpoint.  
Function, management of hypertrophy, and recognition and eradication of early cancer are considered.  
An effort is made to summarize the present knowledge of the prostate gland.
- 10:35 Intermission to Visit Exhibits

### SIXTH GENERAL SESSION

*Presiding: L. S. Nelson, M.D., Salina, Kansas*

- 10:50 Early Diagnosis and Persistent Sequellae of Bulbar Poliomyelitis  
*James Frederick Bosma, M.D., Salt Lake City, Utah*  
The sequellae of bulbar poliomyelitis are more common than had previously been thought. It had long been thought that the patient with bulbar poliomyelitis had a good prognosis for recovery from this aspect of the disease. The studies performed in 1948 and 1949 by myself and associates in Minneapolis showed that this was not the case. Rather, a majority of these patients continued to have some residual impairment of function of the pharynx. This impairment was manifest most commonly by difficult swallowing. Many continued to have a nasal quality of voice, and many had choking spells.



### Wednesday Morning, May 17—(Continued)

- 11:25 The Surgical Management of Vesicovaginal Fistulas with Some Technical Suggestions for its Prevention

*Virgil Sheetz Counsellor, M.D., Rochester, Minnesota*

The greatest number of vesicovaginal fistulas today follow some surgical procedure, either abdominal hysterectomy, vaginal hysterectomy or vaginal plastic procedure. This perhaps indicates certain errors in surgical procedures on the pelvic organs. I wish to emphasize how these errors might occur and to point out how they might be prevented.

The important steps in the treatment of these fistulas are: (1) Mobilization of the bladder; (2) Complete removal of scar tissue involving the wall of the bladder and vagina; (3) Accurate apposition of the normal part of the bladder wall without tension. Lantern slides.

- 12:15 Combined Luncheon—Question and Answer Period

Forum Annex

*Presiding: E. S. Edgerton, M.D., Wichita, Kansas*

### Wednesday Afternoon, May 17

#### SEVENTH GENERAL SESSION

Arcadia Theater, Forum

*Presiding: Charles T. Sills, M.D., Newton, Kansas*

- 2:00 The Peril of the Sun Worshippers

*Arthur Robertson Woodburne, M.D., Denver, Colorado*

A discussion of the dangers of excessive exposure to the sun with color photographs illustrating many of the skin changes resulting from excessive exposure. A discussion of solar urticaria and eczema, hydroaestivale and the later involutinal changes hastened by excessive exposure to sun. A consideration of the sun as a contributory factor in senile keratoses and squamous cell carcinoma and a discussion of preventive and treatment methods in these conditions.

- 2:35 Sexual Response in the Human Female

*Edward Needham Smith, M.D., Oklahoma City, Oklahoma*

This subject is important to every physician in the country as well as to individuals who come as patients. Little is to be found in current textbooks dealing with women's problems, and there is appalling lack of understanding on the part of the doctors themselves.

This paper can do no more than briefly discuss some of the factors involved, along with the therapy therefor.

- 3:05 Intermission to Visit Exhibits

Telephone Number at the Forum — 7-5353

## Wednesday Afternoon, May 17—(Continued)

### EIGHTH GENERAL SESSION

*Presiding: George E. Burket, M.D., Kingman*

#### 3:20 Diagnosis and Treatment of Hip Joint Diseases of Children

*Harold Augustus Sofield, M.D., Chicago, Illinois*

Four common hip disabilities in children will be discussed: (1) Tuberculosis of the hip; (2) Legg-Perthes disease of the hip; (3) Slipping of the upper capital femoral epiphysis; (4) Septic infection of the hip. Differential diagnosis by clinical methods and by x-rays, and treatment of the various disabilities will be outlined. Prognosis of the various disabilities and complications will be covered. Various methods of use of newer antibiotics and recent methods of surgical therapy will be discussed.

#### 3:55 Parenteral Fluid and Electrolyte Requirements

*Samuel Bernard Nadler, M.D., New Orleans, Louisiana*

The management of fluid and electrolyte administration frequently falls to the lot of the attending physician. Such therapy is essential in individuals who have for surgical or other reasons been deprived of normal channels of fluid and electrolyte intake. To arrive at correct quantities, one is forced to consider normal routes of water and salt loss from the organism. Compensation for these losses accomplished by parenteral administration. Failure to correctly estimate fluid and electrolyte loss may result in serious consequences from the standpoint of pulmonary and vascular complications—even the advent of death. An understanding of the fundamental physiologic principles involved may well serve to prevent disaster. It is the purpose of this paper to consider the basic mechanisms involved in fluid and electrolyte change in the organism.

## Wednesday Evening, May 17

#### 7:30 Annual Banquet

New Blue Moon, 3401 South Oliver

*Presiding: Haddon Peck, M.D., St. Francis, Kansas*

Special Music

#### 9:30 Address—"Selling Liberty—A Public Relations Project for Every American"

*Mr. Leonard E. Read, President, The Foundation for Economic Education, Inc., New York, New York.*

#### 10:00 Dancing

Music by Dick Houghton Orchestra



## Thursday Morning, May 18

### 9:00 Registration

Forum, North Entrance

Open 9:00 A.M. to 3:00 P.M.

### NINTH GENERAL SESSION

*Presiding: Robert Soblberg, Jr., M.D., McPherson, Kansas*

#### 9:30 Recent Advances in Fracture Treatment

*Harold Augustus Sofield, M.D., Chicago, Illinois*

The conservative treatment of fractures and the careful attention to methods of traction treatment will be stressed. The use of plaster casts, cellulose acetate immobilization and splints will be outlined. Some of the more recent methods of metal fixation by means of intra-medullary rods, blade plating, double plating and multiple pinning will be demonstrated by x-rays. Methods of fracture healing and experimental work on relatively inert types of metals along with sliding bone plates will be discussed. The treatment of the patient as a whole rather than the treatment of the fracture shown by the x-ray will be emphasized.

#### 10:05 The Recognition and Treatment of the Anemias

*Sloan Jacob Wilson, M.D., Kansas City, Kansas*

The primary and secondary anemias should be properly diagnosed before therapy is instituted. Too often many of the diagnostic signs and symptoms disappear after treatment and it is then extremely difficult to determine the initial etiologic factors. Simple procedures can be done in any physician's office that will be of aid in the diagnosis and adoption of proper methods of therapy. The role of iron, liver, folic acid, and vitamin B<sub>12</sub> in the control of the anemias will be presented. Diagnostic aids and therapeutic management of the various primary and secondary anemias will be discussed.

#### 10:35 Intermission to Visit Exhibits

### TENTH GENERAL SESSION

*Presiding: Thomas P. Butcher, M.D., Emporia, Kansas*

#### 10:50 Hemorrhage and Shock in Obstetrics

*Edward Needham Smith, M.D., Oklahoma City, Oklahoma*

A casual look at the mortality statistics does not reveal the true status of hemorrhage as a killer in childbirth.

Far too often the attending physician is lulled into a false sense of safety by such diagnostic aids as pulse rate, blood pressure, hemoglobin determination, etc. A few of the basic principles must be understood in order to make the fullest use of our therapy measures. Emergency treatment is discussed in detail.

#### 11:25 The Dehydrated Patient

*Samuel Bernard Nadler, M.D., New Orleans, Louisiana*

The problem of the dehydrated patient is receiving increasing attention. In the past, emphasis has been placed upon replacement of extra-cellular fluid and electrolyte insofar as the loss attending dehydration can be estimated on the basis of history or actual measurement. Special considerations, however, are necessary with reference to exchange of fluid from intra-cellular compartment to extra-cellular compartment and vice versa. Further consideration must be given the important ion potassium which may tip the balance for survival or death. Therapeutic indications for the administration of hypertonic saline and of potassium solutions, embodying current concepts, will be discussed.

#### 12:15 Combined Luncheon—Meeting on Fluid Balance

Forum Annex

*Presiding: G. F. Gsell, M.D., Wichita, Kansas*

## Thursday Afternoon, May 18

### ELEVENTH GENERAL SESSION

Arcadia Theater, Forum

*Presiding: Thomas L. Foster, M.D., Halstead, Kansas*

#### 2:00 What is Psychosomatic Medicine?

*Jules Victor Coleman, M.D., Denver, Colorado*

The purpose of this discussion will be to describe the four main groups of physical complaints associated with psychological disturbance: (1) The anxiety states (somatization); (2) The psychosomatic conditions proper (asthma, hypertension, peptic ulcer, etc.); (3) Conversion reactions; (4) Personality reactions to organic illness.

#### 2:35 Recent Advances in the Diagnosis and Treatment of Hematologic Diseases

*Sloan Jacob Wilson, M.D., Kansas City, Kansas*

Many advances have been made in the diagnosis and treatment of hematologic diseases. Bone marrow biopsies are necessary for proper interpretation of the relation of peripheral blood, splenic activity and the marrow itself. Primary and secondary hypersplenism may cause bizarre hematologic problems. The treatment of certain hemorrhagic states with salmine (protamine) sulfate, toluidine blue, and other therapeutic agents is now better understood. Urethane and nitrogen mustard have been released for general use and the control of such powerful chemotherapeutic agents is indeed necessary. The results of clinical investigation with folic acid antagonists, ACTH, and cortisone in hematologic diseases will be discussed.

#### 3:20 House of Delegates

#### 4:30 Council

## *Reservations*

Advance reservations necessary for special events, tournament dinner, annual banquet, luncheons. No tickets will be sold at the door. Mail reservations for each event and checks to

### **SEDGWICK COUNTY MEDICAL SOCIETY**

**1003 Schweiter Building**

**Wichita 2, Kansas**

**Tournament dinner — \$2.25**

**Annual banquet — \$5.50**

**Luncheons — \$1.50**



## *Eye, Ear, Nose and Throat Section*

**Tuesday Morning, May 16**

- 8:00 Registration  
 Forum, North Entrance  
 Open 8:00 A.M. to 5:00 P.M.  
 Opening of Scientific and Technical Exhibits

### FIRST SESSION

- 9:00 General Assembly  
 Arcadia Theater, Forum  
 All EENT Meetings in EENT Section Room  
*Presiding: Norton L. Francis, M.D., Wichita, Kansas*

- 9:35 Lesions of the Mouth  
*Paul McNary Moore, M.D., Cleveland, Ohio*  
 A Kodachrome illustrated discussion of many of the lesions seen in the mouth. This will include lesions of the mucous membranes, gums, tongue, bone, and adjoining structures and the oral manifestations of some of the general diseases.

- 10:35 Intermission to Visit Exhibits

### SECOND SESSION

*Presiding: Dale D. Vermillion, M.D., Goodland, Kansas*

- 10:55 Treatment of Retinal Detachment  
*John Chenault Long, M.D., Denver, Colorado*  
 A discussion of the value of meticulous examination and individualized planned technique in present day retinal detachment surgery.
- 12:15 Combined Luncheon—Meeting on Diabetes Mellitus  
 Forum Annex  
*Presiding: J. P. Berger, M.D., Wichita, Kansas*

**Tuesday Afternoon, May 16**

### THIRD SESSION

*Presiding: LaVerne B. Spake, M.D., Kansas City, Kansas*

- 2:05 Anesthesia in Otolaryngology  
*Paul McNary Moore, M.D., Cleveland, Ohio*  
 The success of any operation depends almost as much on the effectiveness of the anesthesia as it does on the perfection of the operative technique. There is no need or excuse for a doctor to hurt his patient. Two important points must be borne in mind—apply the anesthetic in the prescribed manner and allow sufficient time for it to take effect before starting the operation. The choice of anesthetic and method of administration for the various otolaryngological procedures is discussed in detail.

- 3:05 Intermission to Visit Exhibits

### FOURTH SESSION

*Presiding: Will D. Pitman, M.D., Pratt, Kansas*

- 3:25 Results of Therapy of Retinal Detachment  
*John Chenault Long, M.D., Denver, Colorado*  
 An analysis of results in this office by various methods in the last 20 years.

## Wednesday Morning, May 17

8:30 Registration

Forum, North Entrance

Open 8:30 A.M. to 5:00 P.M.

Opening of Scientific and Technical Exhibits

### FIFTH SESSION

9:00 General Assembly

Arcadia Theater, Forum

All EENT Meetings in EENT Section Room

*Presiding: Ralph E. Cheney, M.D., Salina, Kansas*

9:35 Reconstructive Surgery of the Lower Lid

*John Chenault Long, M.D., Denver, Colorado*

A discussion and movie of the Wendell Hughes technique for reconstruction of a lower eyelid after removal for malignancy.

10:35 Intermission to Visit Exhibits

### SIXTH SESSION

*Presiding: Arthur M. Dougherty, M.D., Dodge City, Kansas*

10:55 Cysts and Fistulas of the Face and Neck

*Paul McNary Moore, M.D., Cleveland, Ohio*

The majority of these cysts and fistulas are of developmental origin. The embryology of the region will be reviewed briefly. The development, diagnosis and treatment of the following conditions will be discussed: fistula auris congenita, sebaceous cyst, epidermoid cyst, dermoid cyst, alveolonasal cyst, cystic hygroma, mucous cyst, ranula, thyroglossal cyst, bronchiogenic cyst and fistula, laryngocele, meningocele.

12:15 Combined Luncheon—Question and Answer Period

Annex, Forum

*Presiding: E. S. Edgerton, M.D., Wichita, Kansas*

## Wednesday Afternoon, May 17

### SEVENTH SESSION

*Presiding: William M. Scales, M.D., Hutchinson, Kansas*

2:05 Common Ocular Malignancies

*John Chenault Long, M.D., Denver, Colorado*

Discussion of the pathology, appearance, and treatment of malignancies of the eye and adnexa.

3:05 Intermission to Visit Exhibits

### EIGHTH SESSION

*Presiding: Maurice Ryan, M.D., Kansas City, Kansas*

3:25 Management of Hemorrhage

*Paul McNary Moore, M.D., Cleveland, Ohio*

Hemorrhage in the field of otolaryngology is particularly distressing to the patient because blood in the airway can make breathing very difficult. Spontaneous and postoperative bleeding from the ears, nasal passages and throat are considered. The various causes are discussed and suitable treatment outlined.



## *Technical Exhibits*

1. E. R. Squibb and Sons
2. Arotex Company, Inc.
3. Ethicon Suture Laboratories, Inc.
4. VanPelt and Brown, Inc.
5. Philip Morris and Company, Ltd.
6. Eli Lilly and Company
7. Producers Creamery Company
- 8 and 9. Munns Medical Supply Company, Inc.
10. Medical Protective Company of Fort Wayne, Indiana
11. Parke, Davis and Company
12. Schering Corporation
13. A. S. Aloe Company
14. Sharp and Dohme, Inc.
16. General Electric X-ray Corporation
19. W. C. Scott and Company
20. C. B. Fleet Company, Inc.
21. Westinghouse Electric Corporation
22. Ortho Pharmaceutical Corporation
23. American Optical Company
25. Gray Fox, Inc.
26. Continental Casualty Company
27. American Hospital Supply Corporation
28. Blue Cross and Blue Shield
29. Sandoz Chemical Works, Inc.
30. The Borden Company
31. Doho Chemical Corporation
32. Goetze-Niemer Company
33. The William S. Merrell Company
34. Holland-Rantos Company, Inc.
35. H. G. Fischer and Company
39. McCormick Corset Shop
40. Zemmer Company
41. Ciba Pharmaceutical Products, Inc.
42. Lanteen Medical Laboratories, Inc.
43. Burroughs Wellcome and Company (U.S.A.), Inc.
44. Mead Johnson and Company
45. Winthrop-Stearns, Inc.
46. J. B. Lippincott Company
48. United Medical Equipment Company
49. Thomas A. Edison, Inc.
51. Quinton-Duffens Optical Company
52. Medco Products Company
53. Pet Milk Company
54. Lederle Laboratories Division, American Cyanamid Company
58. Coufal-Keleket X-ray Company
59. Ayerst, McKenna and Harrison, Ltd.
- 60 and 61. Sealy Mattress Company
62. A. H. Robins Company, Inc.
63. M and R Dietetic Laboratories, Similac Division
- 64 and 65. Coca-Cola Company
66. The S. E. Massengill Company
67. G. D. Searle and Company
68. William P. Poythress and Company, Inc.
- 69 and 70. Mid-West Surgical Supply Company

## *Annual Banquet*

New Blue Moon, 3401 South Oliver

Wednesday Evening, May 17, 1950

7:30 Banquet

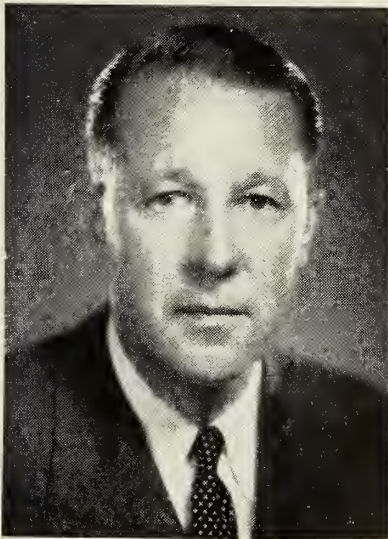
Presiding: Haddon Peck, M.D., St. Francis, Kansas

Special Music

9:30 Address—"Selling Liberty—A Public Relations Project for Every American,"  
Mr. Leonard E. Read, President, The Foundation for Economic Education, New  
York, New York.

10:00 Dancing

Music by Dick Haughton Orchestra



Mr. Read, the speaker for the banquet, believes in arousing thought rather than directing political action; in explaining rather than promoting. Since 1946 he has been president of the Foundation for Economic Education, a non-political, non-profit educational institution dedicated to a search for truth in answer to the economic and social problems of our day. He believes that the voluntary society, the free-market economy and limited government are the foundations of individual freedom and progress.



# *Woman's Auxiliary to the Kansas Medical Society*

Annual Meeting, May 15-18, 1950

Wichita, Kansas

## Monday, May 15

1:00-4:00 Registration, Forum

## Tuesday, May 16

9:00-4:00 Registration, Forum

9:30 Pre-Convention Board of Directors Meeting, West Room of 20th Century Clubhouse, 536 North Broadway

12:30 Luncheon Followed by Style Show, Auditorium of 20th Century Clubhouse, 536 North Broadway. Tickets, \$2.25

## Wednesday, May 17

9:00-4:00 Registration, Forum

9:00 General Session, Bamboo Room, Hotel Broadview

1:00 Luncheon, English Room, Hotel Broadview. Tickets, \$2.00  
Speakers: Haddon Peck, M.D., F. R. Croson, M.D., and C. Omer West, M.D.  
Complete program to be announced.

7:30 Annual Banquet, Kansas Medical Society

## Thursday, May 18

9:00 Post-Convention Board of Directors Meeting, Hotel Broadview  
Tickets for both luncheons must be obtained prior to convention time.  
Please mail reservations and remittance to Mrs. H. F. O'Donnell, 5526 Plaza Lane, Wichita, Kansas

Visit the Auxiliary booth at the Forum. Coffee will be served

## Convention Chairmen

Registration—Mrs. J. V. Van Cleve  
Hotel and Luncheon Arrangements—Mrs. Cramer Reed  
Style Show—Mrs. Willard Kiser  
Table Decorations—Mrs. James Hibbard  
Tickets—Mrs. H. F. O'Donnell  
Publicity—Mrs. Jack Tiller  
Transportation—Mrs. E. L. Cooper

## *Kansas Medical Assistants' Society*

Annual Meeting, May 14-15, 1950

Allis Hotel, Wichita, Kansas

Sunday, May 14

- 9:30 Registration. Open 9:30 A.M. to 1:30 P.M.
- 9:30 Coffee
- 2:00 Address of Welcome—Earl L. Mills, M.D., Wichita, President, Sedgwick County Medical Society
- 2:15 Response—F. R. Croson, M.D., Clay Center, President-elect, Kansas Medical Society
- 2:30 Diet in Disease—Edward J. Ryan, M.D., Emporia, assisted by Mrs. Marian Wilson, Emporia, Dietitian
- 3:00 Recent Advances in Otolaryngology—William P. McKnight, M.D., Wichita
- 3:30 Melanoma—A. E. Hiebert, M.D., and H. W. Brooks, M.D., Wichita
- 4:00 Election of Officers
- 6:00 Buffet Supper and Style Show

Monday, May 15

- 8:00 Registration. Open 8:00 A.M. to 9:30 A.M.
- 10:00 Meeting Called to Order—Mrs. Faye Bullard, Hutchinson, President, Kansas Medical Assistants' Society
- 10:10 Greetings—Miss Mary Ellen Babb, Wichita, President, Sedgwick County Medical Assistants' Society
- 10:15 Some Interesting Aspects of Modern Chest Surgery—Paul W. Schafer, M.D., Kansas City, Professor of Surgery, University of Kansas School of Medicine
- 11:15 Group Psychotherapy for the Recovery of the Alcoholic as Practiced by Alcoholics Anonymous—Z. Miles Nason, M.D., Kansas City
- 12:15 Luncheon  
Browsings Around the Arctic Circle—Rene M. Gouldner, M.D., Wichita
- 2:00 Installation of Officers
- 3:00 Viewing of Exhibits—Rose Room, Wichita Forum



## PRESIDENT'S PAGE

Dear Doctor:

I am really and truly proud of the average Kansas doctor. You are a capable and friendly individual. It has been a fine experience to have served you during this past year. It has been particularly pleasing to know so many of you personally. The time has passed all too rapidly.

There were many things I had planned to do for the Society but time did not permit. Your support and cooperation has been extremely gratifying. Every member of the Council has demonstrated an unmatched active interest. Each committee has been very active. Some have consumed an amazing amount of time in the performance of their duties. The past president, president-elect, first and second vice presidents and the entire executive staff have been fully cooperative.

Particularly I wish to call your attention to the 17 years' service given to your Society by your treasurer, Dr. John Lattimore. He has served not only in practically every capacity possible but has served us as our own doctor in the state legislature. Very few of us realize how much time that has taken. Let us all take a bow to our beloved John.

I truly regret that my year is drawing to a close. However, I am very happy to turn this page to the pen of Dr. Roy Croson. He will be your earnest, devoted president, will act with vigor and mature judgment, even though he is a younger man (you wouldn't believe it, would you?).

As a final appeal, let us remember that the price of freedom is eternal vigilance; the price of being considered a capable doctor by a devoted public is eternal service. You will serve yourself best by cheerfully serving your patients. Knowledge and techniques in medicine have advanced tremendously; the application must be tempered with wisdom.

Assuring you of my continued interest and devotion to your Society, I am

Sincerely,

A handwritten signature in cursive script that reads "Haddon Perch, M.D." The signature is written in dark ink and is positioned above the printed name of the president.

President.

## *President*



Haddon Peck, M.D., President

The Society has closed a memorable year under the tireless and farsighted guidance of Haddon Peck, M.D. Reviewing details of his activities, the hours he spent performing services for the Society, the thousands of miles he traveled in the interests of the Society, would require volumes. A condensation cannot begin to do justice to the story.

It will become increasingly apparent as time goes by that Dr. Peck's leadership has broadened the base of the Kansas Medical Society's sphere of influence. His inspiration has given the Society a contact with the people of the state that has not been available before. The success of this enormous venture has obtained for the Society nationwide recognition beyond anything that has been experienced in the past.

In this wider scope of activity your president has kept sight of the thousands of details that are always present. Committee work has progressed in keeping with the larger over-all program. Co-operation with the medical school has become a reality. Post-graduate programs were better attended than ever before. All these and many more activities deserve mention, but it is the public service rendered by the Society for which this year will be remembered.

## *President-Elect*

F. Roy Croson, M.D., of Clay Center will take over the leadership of the Society at the close of the annual meeting in Wichita. He brings to the Society a rare combination of talents and experience, and everyone is looking forward to a year of unusual activity.

As a successful surgeon he brings to the Society the experience of his rich active years in the practice of medicine. As an officer and councilor he has been acquainted with the activities of the Society over a long period of time. As a world traveler he brings a cosmopolitan, international outlook not only on his views toward medicine but for all things. And then there is his indefatigable energy, his unconquerable rich good humor and his sound practical judgment. Dr. Croson is intensely interested in people and with that combination of personal characteristics and experience his cannot fail being a memorable year.

During his term as president-elect Dr. Croson has not only attended many meeting of the Council, committee meetings and meetings of county societies, but has spent much time planning for the year to come. He will enter this year determined and prepared to make it worth while. Under his direction the programs of the past will be continued and new projects will come into being. Dr. Croson will be an efficient, an enthusiastic and a wise president. With the help of the membership, the Society will make great progress in the coming year.



Roy Croson, M.D., President-elect



## Councilor Reports

### FIRST DISTRICT

#### *To the House of Delegates:*

This has been a quiet but progressive year in the first district. A number of young ambitious doctors have moved into the district to take up work in some localities needing physicians. There are still a few communities that could well support a good physician.

The Jefferson County group has reorganized and is meeting regularly. Most of the larger societies are having regular meetings with scientific discussions. Plans are being made for the organization of a Northeast Kansas Clinical Society for the purpose of having scientific meetings on a larger than county basis.

The new hospital at Hiawatha is nearing completion. Work has started on the Atchison Hospital addition. Organization has been started for a hospital in Jefferson County to serve the communities of Oskaloosa, Valley Falls, Winchester and Nortonville. These projects will help fill a hospital bed shortage in this part of the state.

Blue Shield and Blue Cross programs have a wide acceptance by both the subscribers and the medical profession. Some of the larger industrial companies have medical care programs of their own which are similar to Blue Cross and Blue Shield and are proving quite satisfactory.

Respectfully submitted,  
W. L. Anderson, M.D., *Councilor.*

### SECOND DISTRICT

#### *To the House of Delegates:*

By far the most important event of the year in this district was Kansas Medical Day, held on March 6 at the University of Kansas Medical Center in Kansas City. This is a part of the now famous "Kansas Plan," and was designed primarily to demonstrate to the junior and senior medical students the advantages of returning to practice somewhere in Kansas, preferably in the rural areas. From the standpoint of the state officers and physicians who sponsored and carried out the program, the day was considered highly successful.

Likewise, from the viewpoint of the medical students it was a most welcome opportunity to peer into the future of their medical career. It was a rich source of information on many questions and problems connected with setting up in practice. The spontaneous comments by the students were entirely favorable. The event was considered of sufficient importance to merit a lengthy editorial in the Kansas City Star, which gave a very complimentary re-

port of the day's happenings. The evening banquet, complimentary to the students and their wives, was a further development over last year's program. The evening guest speaker was especially appreciated, and was accepted as a model by every student present for his success in developing a practice in the face of adverse conditions. The officers and members of the state society may be well assured that the entire class of oncoming physicians was most favorably impressed, and that the overall results of this event should soon become evident.

During the past year there was an increase in the total number of doctors in the second district. No county lost a member, either by death or transfer, without replacing him with a new and younger member. Anderson and Miami Counties had no change in personnel. In each of Douglas, Franklin and Linn Counties a doctor died but was replaced by a younger man. In Leavenworth County one doctor died, but two younger men started in practice. Johnson and Wyandotte Counties each gained five new members, so the entire district now has 11 more doctors than at this time last year.

A new hospital is under construction in Garnett, the county seat of Anderson County, and should be completed early this year. The lack of hospital facilities in Linn County works a hardship on the doctors practicing there, and is a deterrent to younger men who would otherwise find it a desirable location.

Due to the lack of hotel space it has not been possible to hold the state medical meetings in the eastern part of the state. One council meeting was held here on March 5, preceding Kansas Medical Day, but it was of necessity held in Kansas City, Missouri, because of lack of hotel accommodations. This difficulty will soon be overcome. A beginning has already been made on the erection of a large, modern convention type hotel at Seventh and State Avenue in Kansas City, Kansas. Completion is expected early in 1951, although unpredictable delays could extend the date beyond the usual meeting date of the state medical society. It is planned, therefore, to invite the state meeting to come to Kansas City in 1952, and long range preparations are already under way.

For several years, members of the Leavenworth County Society have been considering a transfer to the first district, based on closer social, economic and professional ties with Atchison County, their neighbor to the north. This matter was presented last year at the last meeting of the House of Delegates, but could not be acted upon because of par-



Airsickness, trainsickness, seasickness, carsickness—all respond to treatment with Dramamine (brand of dimenhydrinate.)

**DRAMAMINE** \* —for the Prevention and Treatment of Motion Sickness.

\*Trademark of C. D. Searle & Co.



RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**



liamentary rules. During the past year it was considered by the Council, and the proper procedure was outlined to refer this matter to the House of Delegates next May for final action.

Wyandotte County reports the establishment of a grievance committee, as recommended by the Council. The committee will consist of eight men, four doctors, appointed by the county medical society, and four laymen of outstanding reputation and influence in the community, appointed by the Chamber of Commerce Committee on Health and Public Welfare. So far as is known, this is the first time a plan of equal public representation on a grievance committee has been tried anywhere in this country. This plan was adopted to prevent the possible insinuation that a strictly medical committee might hand down unfair or biased decisions. Its success will be closely watched by both local and state societies. This committee is the result of the thoughtful planning of Dr. O. W. Davidson, and under his chairmanship its successful functioning seems assured.

The councilor from this district attended meetings in each of the counties where they are held regularly. It appears that the attendance at these meetings is in inverse ratio to their size. No meetings of the entire district were attempted. It is believed that in several counties a frank discussion of state and national policies on a question and answer basis has resulted in a clearer understanding of the aims of our organization.

Respectfully submitted,  
A. J. Rettenmaier, M.D., *Councilor*.

#### THIRD DISTRICT

*To the House of Delegates:*

The absence of dissension in the third district and the high caliber of young men revealing a greater interest in their local county societies are most gratifying.

A marked increased bed capacity with additional hospitals either constructed or under construction has not only attracted capable young doctors but has helped to stimulate a keener appreciation of medical ethics and the need for a strong Kansas Medical Society.

Throughout the district one hears most favorable comments regarding the material progress made at the University Medical School. These remarks are not infrequently accompanied by the expression of the desire that a healthy relationship between the staff of the medical school and members of the Kansas Medical Society be maintained.

As more members become familiar with the problems of Blue Cross and Blue Shield they will more effectively improve not only their own but the

client's relationship to Blue Cross and Blue Shield. The problems of the Blue Cross and Blue Shield have been well presented to the members of the third district and the committee should be congratulated for their activity; however, greater dissemination of their problems should be undertaken in the following year.

I have attended all the councilor meetings and must admit that my presence was noted for preponderance of silence, but since this is my first year as councilor I deemed it advisable to better acquaint myself with the functions of my office before displaying any verbal activity. I trust that the remaining two years of my term will prove more constructive than silent.

Respectfully submitted,  
James G. Hughbanks, M.D., *Councilor*.

#### FOURTH DISTRICT

*To the House of Delegates:*

The over-all picture in the fourth district has not changed since a year ago, when it was reported that scientific meetings were being held at frequent intervals and physicians in the area were enjoying pleasant professional relationships.

It was also stated last year that hospitals in the district were overcrowded, a condition which continues to exist. However, several building projects are in various stages of planning and the need for hospital beds in the district will ultimately be met. Topeka, the largest city in the district, has voted bonds for hospital construction, which will do much to alleviate crowded conditions.

As a novice on the Council I have been greatly interested in state-wide activities throughout the past year. I wish to be of service to the profession, especially in the fourth district, in any way possible and will always welcome suggestions from the membership.

Respectfully submitted,  
F. C. Taggart, M.D., *Councilor*.

#### FIFTH DISTRICT

*To the House of Delegates:*

It is with pleasure that I prepare this report for the fifth district where conditions now are apparently normal from the standpoint of medical practice and hospitalization.

There have been no retractions and practically all medical doctors are members of the medical societies with the possible exception of some internes.

The Blue Cross and Kansas Physicians' Service are creating more interest and the participants are uniting with this service in increasing numbers.

The counties in the fifth district holding scientific meetings very successfully are: Harvey with

*Your* **LABORATORIES**  
*Our* **RESPONSIBILITY**

CLINICAL PATHOLOGY  
PATHOLOGIC ANATOMY

**DUNCAN LABORATORIES**

*Established 1921*

909 Argyle Bldg. **KANSAS CITY 6, MO.**

230 Frisco Bldg. **JOPLIN, MISSOURI**

RALPH EMERSON DUNCAN, M.D.

In addition to diagnostic laboratory services, chemically accurate and clinically tested reagents, solutions, stains and culture media are available for immediate delivery.



Newton and Halstead as the main hospital centers. Also Reno County at Hutchinson and Barton County at Great Bend have been holding scientific meetings. The counties of McPherson and Rice, while smaller in population, have been keeping up their interest in scientific meetings.

There is an apparent increase in interest in county, state and national societies, which is a good omen, and the councilor has tried to keep the members informed of matters of importance considered by the council, which will help the interest in State Society and attendance at the state meeting.

Respectfully submitted,

L. J. Beyer, M.D., *Councilor*.

#### SIXTH DISTRICT

*To the House of Delegates:*

The sixth district has had a very satisfactory year. Many new physicians have settled in this district, and many new hospitals are being built, or in the process of building. Medical and hospital care have been adequate in this district.

There has been a complete amalgamation of the county and city public health units in Wichita and Sedgwick County. This, we feel, has been a big step ahead, with a greater coverage without adding to the cost. Plans are going on quite satisfactorily for a new county and city hospital in Wichita and Sedgwick County.

No local problems of any significance have arisen during the past year, and each county society has cooperated in the work of the Kansas Medical Society. This district has been quite active and quite vocal in fighting socialistic legislation now pending before Congress in Washington. We of this district feel, as citizens, as well as physicians, that we must continue to fight to the last ditch any legislation that tends towards nationalization of medicine.

J. V. Van Cleve, M.D., *Councilor*.

#### EIGHTH DISTRICT

*To the House of Delegates:*

Your councilor from the eighth district has attended the various Council meetings held during the year and has attempted to keep the physicians in his local area informed regarding the state society's activities.

With few exceptions this district is now adequately served by physicians. Hospital needs are being met and as far as is known no urgent local problems exist. Barring the event of another war, it appears that this district will present no important difficulties during the years immediately ahead.

Respectfully submitted,

W. A. Smiley, M.D., *Councilor*.

#### NINTH DISTRICT

*To the House of Delegates:*

Your councilor from the ninth district wishes to report that medical care has been excellent with adequate physicians throughout the year. The medical and hospital situation has been one of improvement.

Well attended medical meetings have been held at regular intervals through the year. During the six months postgraduate course only business meetings were held, usually preceding the lectures. One cannot overestimate the social and intellectual advantages brought about by the six months postgraduate course sponsored jointly by the Kansas Medical Society, the Kansas State Board of Health, and the University of Kansas Medical School. Your councilor wishes to express the ninth district's gratitude for the high quality medical education furnished by these three agencies.

The professional coronaries held up well; there were no deaths nor mercy killings so far as the writer knows. New physicians entering practice in the ninth district during the last year are Dr. William Guthrie, St. Francis; Dr. Eldon Teeter, Goodland; Dr. S. A. Lutgen, Colby; Dr. Marshbanks and Dr. Ornie, Oakley, and Dr. Nance of Hoxie. Dr. W. W. Gist, formerly with Dr. Peck, has left the district for another location.

At present it is a conservative estimate to state for the last six months not over one-half the hospital beds in the district have been filled. The hospitals under construction are meeting delays, especially where construction had to be changed to qualify for certain grants. Goodland lost more than they gained, qualifying for a grant. Atwood, when finished, will bring in another 33 beds; Oakley's new hospital, 25 beds; Norton's, 35 beds; and Oberlin, 22 beds. The latter two cannot be classed as additional beds since they are replacing old hospitals. Bird City is building a doctor's quarters with additional space to "hospitalize emergencies." The writer is informed that it will be called "The Bird City Clinic." It seems this is a case of building the cage before you bring home the bird. Building the "clinic" is a gesture to attract a physician to the prosperous little town of Bird City. It would seem the ninth district might soon be oversupplied with hospital beds.

One might well rate the dubious distinction of Philosopher of Folly if he tried to analyze certain trends. When we were limited in hospital and medical facilities people would endure anything to lie in the hall of an old hospital; now when we are over supplied with luxurious hospital accommodations people are not so anxious to use them. Perhaps pecuniary pressure, the tendency to hoard during shortages, or indifference to that which is easy to

IN PERSON

# **JACK BENNY**

# **PHIL HARRIS**

**EDDIE "ROCHESTER" ANDERSON**

WITH PHIL HARRIS' ORCHESTRA

AND FORTY TOP-FLIGHT RADIO & SCREEN STARS

IN A

LAUGH FILLED

## **GALA VARIETY SHOW**

## **THE WICHITA FORUM**

**ONE NIGHT ONLY**

**TUESDAY**  
**MAY 16**

**TWO EVE. SHOWS**  
**7 P.M. & 9:30 P.M.**

PRICES: \$3.66, 3.05, 2.44, 1.83 (Taxes Inc.)

Include Self-Addressed, Stamped Envelope with Check or Money Order for Return of Tickets.

Be Sure to Specify Performance!

**ORDER NOW — SEATS GOING FAST**  
**FLOTO TICKET OFFICE**

**219 SO. WATER**

**WICHITA 2, KAN.**

Hear What Jack Benny Has to Say About Kansas Doctors on His Broadcast Sunday, May 14!



obtain explains the empty beds. Early post-operative ambulation and shortened illness duration due to antibiotics and other newer combatants of disease have much to do with keeping people out of hospital beds.

Whether a lot of little hospitals with their poor economies instead of a few larger ones is good or bad remains to be seen. One thing the trend does is to reduce the surgeon to a general practitioner and elevate the general practitioner to a surgeon and roentgenologist. Generally the well trained surgeon makes a good general practitioner, but is the equation reversible? Out in the Kansas Ukraine every doctor can have a hospital and every patient a doctor.

In the ninth district where all is rural the people are well educated against socialized medicine. This social evil did not originate in the rural communities in the first place. The rural people will be the last to accept it.

Respectfully submitted,  
M. J. Renner, M.D., *Councilor*.

#### TENTH DISTRICT

*To the House of Delegates:*

The past year has shown a considerable increase in medical facilities in this district. New hospitals in Quinter and Wakeeney are nearing completion. The new wing of Hadley Memorial Hospital at Hays is approximately half complete and the new powerhouse and laundry facilities at St. Anthony's Hospital are well under way. These are sufficient to serve an additional 150 beds, whenever this addition may be made.

The health of the district is further assured by a large number of young and well trained men who are starting their practice here both independently and in groups.

I know of no community that is more than 20 miles from a doctor and most are within 35 miles of a hospital.

Interest in our local diagnostic tumor clinic has increased with the addition of a slide projector, which enables us to study the histopathology of all tumors as a group, and with adequate surgical, x-ray and radium we are hoping to qualify as a tumor treatment clinic.

Reports from this and surrounding counties are encouraging as regards prospects for another good wheat crop as we have been favored with a fair precipitation since the first of the year.

Our groups all seem solidly behind the educational program of the American Medical Association in its efforts to preserve the initiative of the doctor and the fine patient-physician relationship

which makes American medicine the best in the world.

I believe that the practice of medicine in this district is the best that we have ever had, both from the lay and professional viewpoint.

Respectfully submitted,  
Murray C. Eddy, M.D., *Councilor*.

#### ELEVENTH DISTRICT

*To the House of Delegates:*

The medical picture in the eleventh district has greatly improved during the past year. Hospitals are progressing nicely in Kiowa, Pratt, Pawnee, and Comanche Counties. Also these counties have recent medical graduates starting practices within their borders. Barber County is planning a hospital at Medicine Lodge.

With these improvements I would say that medical care for this area is quite satisfactory and by the end of the summer will be above average.

Respectfully submitted,  
Cyril V. Black, M.D., *Councilor*.

#### TWELFTH DISTRICT

*To the House of Delegates:*

District twelve is one of the most loosely connected of all Kansas councilor districts. In most of our counties, a county medical society with one member could boast 100 per cent representation of the doctors in the county.

Even in more heavily populated districts, interest in county medical societies is not marked. A flood of medically-connected organizations overwhelms the doctor until one additional meeting becomes a real burden. Almost the only county society gatherings in the last year have been held in conjunction with hospital staff meetings. County societies in district twelve might well be pronounced dead.

A district society which will embrace all of district twelve would appear to answer the need for an organization which will bring together the doctors of the district without meeting frequently enough to inconvenience them.

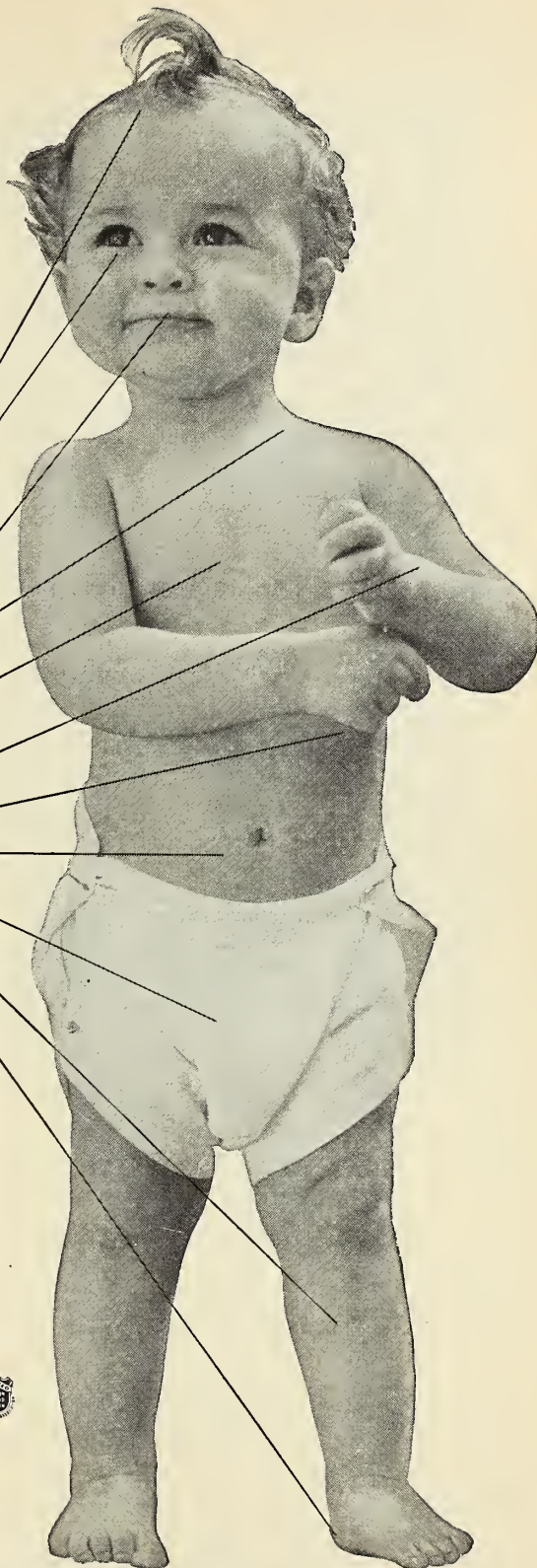
A preliminary meeting of such an organization was held in Garden City, November 6, in conjunction with the District Twelve Blue Shield Physician Relations Committee meeting. Plans are now in progress to meet again on the same night that Kansas University extension lectures are in Dodge City. Since most doctors in district twelve are attending these lectures, the district society program will make few additional demands of time and expense from participating physicians. At the same time, it will provide a substitute for the waning county society.

A year ago, we had a definite need for a physician in many towns in this district. I am glad to

# from *head* to *toe*

CEREVIM-fed children showed greater clinical improvement, in the following nutrition-influenced categories, than children fed on ordinary unfortified cereal or no cereal at all:<sup>1</sup>

hair lustre  
 recession of corneal invasion  
 retardation of cavities  
 condition of gums  
 condition of teeth  
 skin color  
 skeletal maturity  
 skeletal mineralization  
 \*blood plasma vitamin A increase  
 \*blood plasma vitamin C increase  
 subcutaneous tissues  
 dermatologic state  
 urinary riboflavin output  
 musculature  
 plantar contact



*Here's why:* CEREVIM is not just a cereal.

*Much more:* CEREVIM provides 8 natural foods: whole wheat meal, oatmeal, milk protein, wheat germ, corn meal, barley, Brewers' dried yeast and malt – PLUS added vitamins and minerals.

# CEREVim



**CEREALS + VITAMINS + MINERALS**

1. "A Study of Enriched Cereol in Child Feeding" Urbach, C.; Mock, P. B., and Stokes, Jr., J: Pediatrics 1:70, 1948.

\*Cerevim contains neither vitamin A nor C but possibly exercises an A-and-C sparing effect attributed to its high content of protein and major B vitamins.

SIMILAC DIVISION



M & R DIETETIC LABORATORIES, Columbus 16, Ohio



report now that several new men have come into the area, and the most pressing of these needs have been filled.

Respectfully submitted,  
R. G. Klein, M.D., *Councilor.*

## Committee Reports

### ALLIED GROUPS

T. P. Butcher, Chr., Emporia; A. C. Armitage, Hutchinson; F. H. Buckmaster, Elkhart; R. M. Carr, Jr., Junction City; O. W. Davidson, Kansas City; R. D. Dickson, Topeka; D. M. Diefendorf, Waterville; D. A. Kendall, Great Bend; R. R. Melton, Marion; R. R. Snook, McLouth; W. L. Speer, Osawatomie.

*To the House of Delegates:*

No meeting of the committee was held during the past year. We have enjoyed pleasant relations with all allied groups.

The chairman of the committee, at the request of the Kansas Pharmaceutical Association, addressed the annual meeting of that group at Wichita in March, 1949, on the subject of compulsory health insurance.

Respectfully submitted,  
T. P. Butcher, M.D., *Chairman.*

### ANESTHESIOLOGY

R. S. McKee, Chr., Leavenworth; L. L. Bresette, Kansas City; H. J. Brown, Winfield; H. H. Hyndman, Wichita; P. H. Lorhan, Kansas City; C. D. McKeown, Wichita; R. T. Parmley, Wichita; H. J. Spencer, Emporia; F. C. Taggart, Topeka.

*To the House of Delegates:*

The Committee on Anesthesiology met only once this year, at the St. Regis Hotel in New York during the annual meeting of the American Society of Anesthesiology.

Considerable discussion was held on the establishment of an anesthesiology study commission in the state of Kansas. Dr. Henry Ruth of Philadelphia attended the meeting and discussed his views on the establishment of the commission.

It was recommended by the committee that all members of the Kansas Society of Anesthesia who are eligible for certification by the American College of Anesthesiology or by the American Board of Anesthesiology be encouraged to take the examination.

It was recommended by the committee that the postgraduate course in anesthesiology sponsored by the University of Kansas be held in Kansas City in September, 1950.

Names of several prominent anesthesiologists were discussed for a speaker at the annual meeting in Wichita and Dr. John Adriani of New Orleans was selected.

Respectfully submitted,  
R. S. McKee, M.D., *Chairman.*

### AUXILIARY

C. O. West, Chr., Kansas City; J. A. Billingsley, Kansas City; M. A. Brawley, Frankfort; E. L. Cooper, Wichita; L. J. Schaefer, Salina; I. J. Waxse, Oswego.

*To the House of Delegates:*

The Auxiliary to the Kansas Medical Society during the past year has had a very healthy and satisfactory growth in membership. However, there would be a greater increase if they could have more cooperation from medical men in non-organized counties.

Mrs. F. C. Beelman as editor of the Auxiliary News has done a good job and she has kept the "News" both interesting and inspirational.

The Auxiliary has planned an exhibit at the annual meeting whereby pictures and posters of the Auxiliary's activities throughout the year will be on display. It will be worthy of every doctor's attention.

Mrs. Joe Waxse has done a most satisfactory job with Hygeia. Public health teas and other meetings have been successful and they should be continued. Their popularity is growing.

Many hospitals have been aided by nurse recruitment programs through the past year. This has been a worthy project of the Auxiliary, and scholarships for nurses are being planned.

Mrs. Charles H. Miller of Parsons, president of the Auxiliary, has carried on a most stimulating Auxiliary program. She has also been active in many medical projects such as the health conference, the interim committee and other medical programs.

Respectfully submitted,  
C. Omer West, M.D., *Chairman.*

### CHILD WELFARE

D. R. Davis, Chr., Emporia; M. S. Boyden, Lawrence; H. P. Jubelt, Manhattan; B. I. Krebbiel, Topeka; E. G. Padfield, Salina; W. L. Schafer, Wichita; F. L. Smith, Colby; J. A. Wheeler, Newton.

*To the House of Delegates:*

The Committee on Child Welfare held one meeting during the past year, at Emporia on December 4, 1949. The committee plans to make an inspection tour each year of one of the state institutions which is concerned with child care.

It was decided that one member of the Child Welfare group would sit in at one meeting of the Kansas Council for Children each month.

The committee recommended that the infant

# CAMP

## for POSTOPERATIVE and POSTPARTUM NEEDS

Basic design and the unique system of adjustment make a large variety of Camp Scientific Supports especially useful as post-operative aids. Surgeons and physicians often prescribe them as assurance garments and consider them essential after operation upon obese persons, after repair of large herniae, or when wounds are draining or suppurating. A Camp Scientific Support is especially useful in the postoperative patient with undue relaxation of the abdominal wall. Obstetricians have long prescribed Camp Post-operative Supports for postpartum use. Physicians and surgeons may rely on the Camp-trained fitter for precise execution of all instructions.

If you do not have a copy of the Camp "Reference Book for Physicians and Surgeons", it will be sent on request.



THIS EMBLEM is displayed only by reliable merchants in your community. Camp Scientific Supports are never sold by door-to-door canvassers. Prices are based on intrinsic value. Regular technical and ethical training of Camp fitters insures precise and conscientious attention to your recommendations.

**S. H. CAMP AND COMPANY, JACKSON, MICHIGAN**

*World's Largest Manufacturers of Scientific Supports*

Offices in New York • Chicago • Windsor, Ontario • London, England



mortality study being conducted by the Kansas State Board of Health be continued and be implemented by additional clerical help as needed.

Respectfully submitted,  
David R. Davis, M.D., *Chairman*.

#### CONSERVATION OF EYESIGHT

R. E. Cheney, Chr., Salina; E. E. Anderson, Kansas City; D. O. Howard, Wichita; L. A. Latimer, Alexander; W. D. Pitman, Pratt; W. W. Reed, Topeka; E. N. Robertson, Sr., Concordia; A. M. Wenzel, Hays.

*To the House of Delegates:*

Your committee has been active during the year carrying out projects selected a year ago. A subcommittee completed the preparation of a standard fee schedule for eye services which has been submitted to the Blue Shield Board and to various governmental agencies. The members of this committee have also served in an advisory capacity to the state ophthalmologist on numerous occasions and have cooperated with that division of the State Board of Social Welfare.

The committee on Conservation of Eyesight voted unanimously to request continuance of Dr. H. L. Kirkpatrick for another term as state ophthalmologist. This action was taken because of the wishes of Mr. Frank Long of the Social Welfare Board. Mr. Long felt that it was detrimental to the program that the records be moved out of Topeka.

As Dr. Kirkpatrick has done excellent work as state ophthalmologist, it was requested that he continue another term in that capacity.

Respectfully submitted,  
R. E. Cheney, M.D., *Chairman*.

#### CONSERVATION OF HEARING

L. B. Spake, Chr., Kansas City; A. M. Dougherty, Dodge City; N. L. Francis, Wichita; J. A. Johnson, El Dorado; C. R. Kempthorne, Manhattan; H. E. Marshall, Wichita; H. W. Powers, Topeka; C. H. Steele, Kansas City; G. E. Stone, Hutchinson.

*To the House of Delegates:*

A meeting of the Committee on Conservation of Hearing was held on Sunday, December 11, 1949, at the Jayhawk Hotel, Topeka.

It was unanimously agreed that a definite program should be set up in the state to determine the percentage of children in our public and parochial schools who have some type of deafness, to recommend what should be done for their treatment, and to plan a definite follow-up program.

Leavenworth County was picked as the first county to have such a survey. The Leavenworth County Medical Society was contacted and gave permission for such a survey, which is now being made.

A number of suggestions were made for surveys on a state-wide basis. The cooperation of the following is essential:

1. The Kansas Medical Society.
2. The county medical society.
3. Public and county school nurses.
4. Public and parochial educational authorities.
5. Public health and state welfare agencies.
6. Parent-Teacher Associations.

The survey would include four main provisions:

1. The examination of every school child every three years from grade school through high school.
2. Examination by an otologist of all students with a 12 per cent loss in one or both eyes, as found by the screening test.
3. Suggestions from the otologist as to treatment, whether (a) medical; (b) otologic, (c) corrective.
4. A six-months follow-up of each case.

Other types of surveys have shown us that eight per cent of our grade and high school students have a hearing loss in either one or both ears, that 60 per cent of those can be corrected, and that most of them can be improved.

Respectfully submitted,  
LaVerne B. Spake, M.D., *Chairman*.

#### CONSTITUTION AND RULES

A. W. Fegtly, Chr., Wichita; N. L. Francis, Wichita; H. E. Haskins, Kingman; N. E. Melencamp, Dodge City; W. C. Rinehart, Pittsburg; E. M. Sutton, Salina.

*To the House of Delegates:*

A meeting of the Committee on Constitution and Rules was held December 18, 1949, to revise portions of the Constitution and By-Laws and to discuss proposed amendments. Recommendations of the committee were presented to the Council at its meeting on January 15, 1950.

All proposed amendments were subsequently printed in the Journal of the Kansas Medical Society, first in the February issue and then in the March issue. They will be presented to the House of Delegates for approval or rejection at the annual meeting.

Respectfully submitted,  
A. W. Fegtly, M.D., *Chairman*.

#### CONTROL OF CANCER

O. R. Clark, Chr., Topeka; J. P. Berger, Wichita; H. O. Bullock, Independence; L. F. Glaser, Hutchinson; D. E. Gray, Topeka; C. A. Hellwig, Wichita; J. J. Hovorka, Emporia; W. J. Kiser, Wichita; M. V. Laing, Kansas City; C. H. Miller, Parsons; O. F. Prochazka, Liberal; R. H. Riedel, Topeka; H. E. Snyder, Winfield; R. E. Stowell, Kansas City; G. M. Tice, Kansas City; L. E. Van Zant, Wichita; K. E. Voldeng, Wellington.

*To the House of Delegates:*

During the current year two additional Diagnostic Tumor Clinics have been organized and are now in operation in conformity with the minimum standards as outlined previously by the committee. These two new clinics are located in St. Anthony Hospital and Murray Memorial Hospital, both lo-



***Depo-Heparin***

***price reduction  
of 26%***

*A price reduction of 26% makes it possible now for more patients to receive the therapeutic advantages of Depo\*-Heparin.*

Upjohn research and production workers have so improved methods of extraction, purification, and assay of this long-acting anticoagulant that it is now possible to meet increasing clinical needs and *to reduce its cost by 26%.*

Literature describing anticoagulant therapy in detail is available on request.

*\*Trademark, Reg. U. S. Pat. Off.*

**Upjohn**

***Research***

***in the service of the profession of medicine***

THE UPJOHN COMPANY, KALAMAZOO 99, MICHIGAN



cated in Dodge City. This brings to 28 the number of active Diagnostic Tumor Clinics in the state which are approved by the committee and are receiving financial grants from the Kansas Division of the American Cancer Society. All those on the list one year ago are still active, with the physicians attending meetings feeling that they are distinctly beneficial.

The committee made arrangements for the Second Annual Mid-West Cancer Conference which was held in Wichita on January 19-21, 1950, under the financial sponsorship of the Kansas Division of the American Cancer Society. The conference this year attracted at least double the number it did last year, and an excellent program was presented on each of the days the conference was in session. Speakers and registrants alike were enthusiastic about the meeting, and plans are being made for a similar conference next year. In 1949 the papers given at the conference were all published as a "supplement" to the August issue of the Journal of the Kansas Medical Society, and a similar arrangement is being made for the current year. The exact month of this publication has not yet been determined. The Mid-West Cancer Conference has become the largest single item of the program of professional education of the committee, and of the Kansas Division of the American Cancer Society. It is hoped that it can continue to grow from year to year.

Currently the Kansas Division of the American Cancer Society is distributing, on the recommendations of the committee, to the physicians of Kansas, "The Cancer Bulletin," originally published as "The Texas Cancer Bulletin." Distributed under conditions similar to those by which we obtained the "Illinois Cancer Bulletin" a few years ago, this publication is larger and distributed less frequently, but serves a similar purpose of emphasizing various features of the diagnosis and treatment of cancer.

Discussions are currently under way regarding several other proposed projects which have been considered likely to be worthy of the effort in the campaign against cancer. More can be told of them by the time next year's report of the committee is submitted.

The report of the Committee on Control of Cancer would not be complete without an expression of gratitude for the splendid cooperation of the Kansas Division of the American Cancer Society in carrying out any of the projects which have been proposed by the committee. The financial assistance of the Society has made numerous projects possible which would otherwise never have come into existence. In effect the Cancer Society is the supporting and sponsoring friend of your committee, ac-

cepting without hesitation the recommendations of the committee.

It has been a pleasure to have served with a committee which has so many active and interested members, and it is only through this cooperation and willingness to work, that the accomplishments of the committee have been possible.

Respectfully submitted,

Orville R. Clark, M.D., *Chairman.*

#### CONTROL OF TUBERCULOSIS

C. J. Wilen, Chr., Manhattan; A. L. Ashmore, Wichita; G. B. Athy, Columbus; A. aude, Topeka; R. I. Canuteson, Lawrence; S. L. Cox, Topeka; H. L. Hiebert, Topeka; H. P. Palmer, Scott City; P. W. Schafer, Kansas City; L. E. Strode, Girard; C. F. Taylor, Norton; F. A. Trump, Ottawa.

*To the House of Delegates:*

Two meetings of the committee were held—one in December, 1949, and the other in March, 1950. The following subjects were discussed and actions taken:

A report on the State Sanitarium at Norton was presented by Dr. C. F. Taylor, superintendent. It was the feeling of the committee that an additional diagnostic and treatment facility, similar to Hillcrest in Topeka, should be made available in southeastern Kansas, where the case rate is the highest in Kansas. This recommendation was presented to the council.

The difficult problem of finding a solution for the quarantining of irresponsible sputum positive ambulatory patients received much discussion. No practical scheme is available under present quarantine regulations.

The committee wholeheartedly endorsed the present case finding program of the Division of Tuberculosis of the State Board of Health as initiated by Dr. F. Kenneth Albrecht. The committee reports with great regret the recent untimely death of Dr. Albrecht.

A committee consisting of Dr. Taylor, Dr. Albrecht, and Dr. Jay Sitterley was appointed to prepare articles on tuberculosis for the Journal. Two articles have appeared under these auspices.

The committee is at present studying the Minnesota plan of accrediting counties which attain high standards relative to case finding, tuberculosis testing, etc., in an effort to determine whether a similar plan would provoke greater interest in tuberculosis control in Kansas.

The committee endorsed the use of an excellent exhibit on "Tuberculosis Control in Kansas" devised by Dr. Albrecht and recommended that the state Society donate, if possible, a sum to complete the construction of this excellent educational project. The Tuberculosis Association and State Board of Health have provided two-thirds of the funds involved.



## A POOR POINT OF VIEW!

... With so much going on in the world it's a shame to emulate the traditional position of the ostrich ...

... Busy physicians with heavy working schedules, often are tempted to "get away from it all" by laying aside their professional journals and relaxing with the latest "who dunit" murder mystery ...

... Relaxation is fine, but too much is happening in the world of medical science and medical economics to remain out of professional circulation for more than a short time ...

... The Journal gives you the latest information on scientific matters, news of the profession, and also what is new in drugs, medical appliances, and special services. Don't overlook the educational value of the ads. You can trust their reliability, for only products accepted by A. M. A. councils are advertised.

... Most offer samples. Write for them and in that way help us prove the point we often make, that ... "Kansas physicians read their state medical journal."

### THE JOURNAL OF THE KANSAS MEDICAL SOCIETY



Dr. Sitterley presented several excellent reports on a survey the Tuberculosis Association is sponsoring to secure information on the incidence of positive tuberculosis and histoplasmin tests and chest x-ray findings.

The committee endeavors at all times to maintain a close liaison with the Division of Tuberculosis of the State Board of Health, the State Sanitarium, and the Tuberculosis Association towards the common end of more effective tuberculosis control in Kansas.

Respectfully submitted,  
Carl J. W. Wilen, M.D., *Chairman.*

#### EMERGENCY MEDICAL CARE

G. F. Gsell, Chr., Wichita; W. P. Callahan, Wichita; J. L. Lattimore, Topeka; L. S. Nelson, Salina; H. E. Snyder, Winfield.

*To the House of Delegates:*

The Committee on Emergency Medical Care has served on a standby basis during the past year and did not meet.

Respectfully submitted,  
George F. Gsell, M.D., *Chairman.*

#### EXPERT TESTIMONY

C. E. Joss, Chr., Topeka; E. J. Frost, Wichita; J. L. Lattimore, Topeka; J. W. Spearing, Columbus; E. M. Sutton, Salina.

*To the House of Delegates:*

This committee stands ready to serve the medical and the legal professions at any time. During the past year, however, no calls have been made upon the committee and consequently there has been no meeting or activity. Your chairman gives this statement not as an apology but rather as an indication of the fact that no major difficulties have arisen during the year with reference to medico-legal problems.

Respectfully submitted,  
C. E. Joss, M.D., *Chairman.*

#### HOSPITAL SURVEY

J. L. Grove, Chr., Newton; W. C. Bartlett, Wichita; F. C. Beelman, Topeka; P. L. Beiderwell, Belleville; A. Boese, Coffeyville; A. P. Cloyes, El Dorado; H. L. Collins, Beloit; J. D. Colt V, Manhattan; L. B. Gloyne, Kansas City; A. C. Hatcher, Wellington; O. W. Longwood, Stafford; M. C. Ruble, Parsons.

*To the House of Delegates:*

The Committee on Hospital Survey held no stated meeting this past year. However, I am sure that each individual member of the committee maintained active liaison with hospital activities and progress in his own community.

As chairman of the Kansas Hospital Advisory Council I have noted with pride that one or more medical doctors have always been included with citizen groups appearing before the Council to present the needs of their respective communities for more or better hospital facilities.

In April 1947 the Hill-Burton Survey and Con-

struction Act became effective nationally and was activated in Kansas. The preliminary survey of hospital facilities prior to that time gave Kansas 134 general hospitals supplying 5,741 beds (632 classed as non-acceptable). The survey also indicated an additional need of 3,153 beds. Other additional data in the Kansas survey included detailed information as to the location, ownership and management, age of building, type of construction, bed occupancy, etc. Completely neglected in the survey was any study of the economic position of the voluntary hospitals, especially as related to the problem of handling the city and county welfare load. Almost completely disregarded was the problem of medical staff, both as to personal qualifications and community distribution.

The amendments to the original Hill-Burton Act passed by almost unanimous legislative consent and became public law when signed by President Truman on October 25, 1949. These amendments extended the original act for an additional four years, providing federal aid for hospital construction. Additional sums were made available annually for research and coordinated studies of hospital services and resources.

A brief summary of performance to date under this program of hospital building shows over 40 per cent of the estimated bed needs met in a period of two and one-half years, a gratifying record. The distribution is as follows:

#### Under the Hill-Burton Act

4 general hospitals (completed)	
furnishing .....	142 beds
14 new units or additions (under construction) furnishing .....	437 beds

#### Under voluntary non-profit plans

10 general hospitals (completed)	
furnishing .....	256 beds
18 new units or additions (under construction) furnishing .....	548 beds
—	—
46	1383

Your chairman is proud to direct your attention to the fact that of the 46 hospital projects initiated, 28 furnishing 804 beds resulted from unified community enterprise as against 18 federal aid projects furnishing 579 beds.

The larger per cent of these additional beds are located in teaching or potential teaching centers, as should be, but a goodly number are in rural areas.

The doctors of Kansas who spend many of their working hours in the hospitals should assist in evaluating the needs and helping maintain a careful balance in the distribution of hospital facilities.

The Kansas Registration and Licensing Law came

## *An Observation on the Accuracy of Digitalis Doses*

*Withering* made this penetrating observation in his classic monograph on digitalis: "The more I saw of the great powers of this plant, the more it seemed necessary to bring the doses of it to the greatest possible accuracy."<sup>1</sup>

To achieve the greatest accuracy in dosage and at the same time to preserve the full activity of the leaf, the total cardioactive principles must be isolated from the plant in pure crystalline form so that doses can be based on the actual weight of the active constituents. This is, in fact, the method by which Digilanid® is made.

*Digilanid* contains all the *initial* glycosides from *Digitalis lanata* in crystalline form. It thus truly represents "the great powers of the plant" and brings "the doses of it to the greatest possible accuracy".

*Clinical investigation* has proved that Digilanid is "an effective cardioactive preparation, which has the advantages of purity, stability and accuracy as to dosage and therapeutic effect."<sup>2</sup>

*Average dose* for initiating treatment: 2 to 4 tablets of Digilanid daily until the desired therapeutic level is reached.

*Average maintenance dose*: 1 tablet daily.

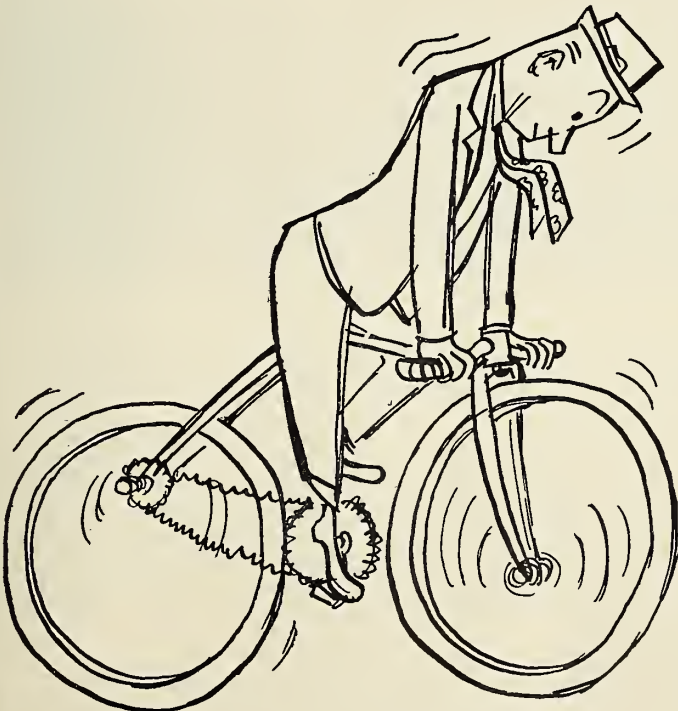
Also available: Drops, Ampuls and Suppositories.

1. *Withering, W.*: An account of the Foxglove, London, 1785.
2. *Rimmerman, A. B.*: Digilanid and the Therapy of Congestive Heart Disease, Am. J. M. Sc. 209: 33-41 (Jan.) 1945.

Literature giving further details about Digilanid and Physician's Trial Supply are available on request.

## *Sandoz Pharmaceuticals*

DIVISION OF SANDOZ CHEMICAL WORKS, INC.  
68 CHARLTON STREET, NEW YORK 14, NEW YORK



There will be no ups  
and downs when using  
Quinton-Duffens accu-  
rate prescription service.

*Quinton-Duffens*  
INDEPENDENT  
OPTICAL COMPANY



into force in June, 1947. This act has been a stimulating influence for better hospitals. It will be a real factor in reducing the 632 non-acceptable beds that now exist. A point rating system has been adopted which will furnish a means of recording not only present conditions but graphically tabulating hospital improvement from year to year.

Every member of the Kansas Medical Society who enjoys staff privileges in his local hospital should read the published "Hospital Standards and Regulations" issued by the Division of Hospital Facilities of the Kansas State Board of Health, Topeka. Your hospital has a copy or a post-card request will bring you one.

Respectfully submitted,  
John L. Grove, M.D., *Chairman.*

#### INDUSTRIAL MEDICINE

J. W. Spearing, Chr., Columbus; H. O. Anderson, Wichita; J. L. Beaver, Wichita; G. R. Combs, Leavenworth; J. A. Grove, Newton; C. W. Hall, Hutchinson; J. G. Hughbanks, Independence; H. L. Regier, Kansas City; F. N. White, Russell.

*To the House of Delegates:*

No meeting of the Committee on Industrial Medicine has been called this year. An excellent schedule was outlined in 1949. A few contacts were made. It is regretfully stated that very little was accomplished. Possibly the management-labor relationship at the present time is a factor.

Respectfully submitted,  
Joseph W. Spearing, M.D., *Chairman.*

#### MEDICAL ASSISTANTS

R. H. Maxwell, Chr., Wichita; C. S. Brady, Atchison; G. A. Chickering, Hutchinson; J. W. Manley, Kansas City; C. O. Meridith, Jr., Emporia; R. R. Sheldon, Salina.

*To the House of Delegates:*

The Kansas Medical Assistants' Society has continued to be an active organization during the past year.

The Executive Board of the group met last May and outlined four projects, all of which have been accomplished: holding a fall clinic, printing a roster of members, organization of a Past Presidents' Club, and publication of the society's constitution and by-laws.

The fall clinic was held at Lawrence, October 23, with a registration of 66. The day's program was presented by a group of medical and lay speakers, with four members of the Kansas Medical Society taking part.

The Past Presidents' Club was organized October 22. Carmen Kline, chairman, reported four recommendations of the club: that a history of the society be written and maintained; that a continuing project be established; that the club serve in an advisory capacity; that annual meetings of the club be held immediately preceding each annual meeting of the society.

A second meeting of the Executive Board was held January 15, with two members of the Kansas Medical Society in attendance. Plans were made for the program for the annual meeting of the society, to be held May 14 and 15 at Wichita, and Mary Ellen Babb, Wichita, was named general chairman. Copies of the constitution and the roster of members will be distributed at that time.

Medical assistants in two cities which do not now have organized groups are in the process of organization.

Respectfully submitted,  
Robert H. Maxwell, M.D., *Chairman.*

#### MEDICAL ECONOMICS

C. H. Benage, Chr., Pittsburg; J. N. Blank, Hutchinson; T. Dechairo, Westmoreland; G. R. Hastings, Garden City; H. H. Hesser, Kansas City; G. E. Kassebaum, El Dorado; J. H. Lathrop, Smith Center; G. D. Marshall, Colby; P. A. Pettit, Paola; R. Sohlberg, Jr., McPherson; H. L. Songer, Lincoln.

*To the House of Delegates:*

This committee is working on a program which of necessity is of long range.

This committee recognizes the significance and the importance of attempting to at least make more nearly standard a state-wide normal average fee for each service rendered. We are attempting to help Blue Shield manage this ever increasing problem. This committee recognizes that inconsistencies promote socialized tendencies.

Your committee is concerned with and is working on the problem with Blue Cross and Blue Shield for a full coverage program as it concerns or may concern the economics of all subscribers.

Your committee passed a resolution which will be handed the House of Delegates concerning insurance companies who are writing protective liability insurance and sincerely requests that each doctor in the state take careful inventory of his coverage, and make any adjustments he may see fit to meet the tendencies of the present day.

Your committee is concerned with the problem confronting various counties in caring for the indigent, and it is hoped in due time that this committee will be able to offer to you for consideration a concrete and definitely positive position regarding all of the above problems.

Respectfully submitted,  
C. H. Benage, M.D., *Chairman.*

#### MEDICAL SCHOOLS

H. H. Jones, Chr., Winfield; G. I. Armitage, Hutchinson; R. G. Ball, Manhattan; F. C. Beelman, Topeka; J. A. Blount, Larned; H. P. Jones, Lawrence; D. N. Medearis, Kansas City; E. S. Miller, Kansas City; M. B. Miller, Topeka; E. L. Mills, Wichita; F. J. Nash, Kansas City; Robert Polson, Great Bend; Maurice Snyder, Salina; H. E. Speirs, Dodge City.

*To the House of Delegates:*

In conjunction with the University of Kansas and the State Board of Health, the graduate program was arranged and carried out as in the previous year. It

# KANOX THERAPEUTIC OXYGEN



Oxygen Therapy Regulators  
and Equipment

Anesthetic and Resuscitating  
Gases

## KANSAS OXYGEN

Phone 6392

HUTCHINSON, KANSAS

Box 551



## *Woodcroft Hospital—Pueblo, Colorado*

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

---

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



it hoped that the courses and faculty have been satisfactory, and the Committee recommends continuance of this phase of graduate education.

Respectfully submitted,

Harold H. Jones, M.D., *Chairman*.

#### MENTAL HEALTH

E. D. Greenwood, Chr., Topeka; A. J. Adams, Wichita; G. E. Burket, Jr., Kingman; G. W. Cramer, Parsons; R. L. Drake, Wichita; D. B. Foster, Topeka; T. L. Foster, Halstead; L. W. Hatton, Salina; C. C. Hawke, Winfield; J. A. Holmes, Lawrence; C. J. Kurth, Wichita; W. C. Menninger, Topeka; J. T. Naramore, Larned; W. F. Roth, Jr., Kansas City.

#### *To the House of Delegates:*

Your committee has held four meetings at the time of this writing and has scheduled two more to be held prior to the annual session. Besides one meeting which was held in a hotel, the committee has visited the Epileptic Hospital in Parsons, the Southard School in Topeka and the Larned State Hospital. In April a meeting will be held at the reformatory in Hutchinson and in May at the Institute of Logopedics in Wichita.

In each of these meetings the superintendent has shown the committee all phases of activities at the institution and, with this broader knowledge of the various services available in Kansas, the committee hopes to be in better position to make sound recommendations for possible improvements. For instance, this committee, after viewing the Winfield and Parsons hospitals, recommends that a service for acute cases be established at Parsons and that the definitely feeble minded ultimately be referred to Winfield. There are numerous specific suggestions regarding occupational therapy, recreation, additional medical personnel as well as personnel in other categories, that could be made. These details are being referred to the Director of Institutional Management and to the Governor's Advisory Council. Reporting them at this time would require considerable space.

The committee is also continuing its efforts toward the preparation of an improved commitment law. The committee recently met with a committee of attorneys appointed by the president of the Kansas State Bar Association, where the general problems were discussed. Members of the bar and of the medical profession will continue to work on this project in the hope of having a bill ready for presentation to the next Kansas legislature.

Your committee is interested in treating patients with mental disease as sick persons and hopes to eliminate the criminal implications that exist at present. Your committee is attempting to make admissions possible on the basis of a medical diagnosis for a 90-day study period. Should commitment be necessary for a longer term, the case should then be

handled by the probate courts, as at present. The attorneys have been most cooperative and your chairman is encouraged with the progress that has been made to date.

This committee is also aware of its responsibility regarding the education of the medical profession on mental health and has invited each county medical society to appoint one or more members to serve in a liaison capacity with the committee. Information is currently being sent to those physicians who have been selected by their county societies to serve in this capacity and as soon as all societies cooperate this activity will be expanded. The committee has a speakers' bureau available for scientific and lay meetings. It is also currently planning a mental health conference to be held during the coming year as a service to physicians of this state. In preparation also is an exhibit that might be used at medical and lay meetings, and your committee respectfully requests the authorization of funds to assist in defraying the expense of this construction.

This committee is represented on all mental health organizations in the state. In this way the committee attempts to give sound medical advice to lay organizations interested in mental health, such as the Kansas Council for Children and Youths, Kansas Society for Mental Hygiene, Kansas Society for Exceptional Children, Mid-Century Mental Health Conference, Juvenile Code Commission, etc. It has been an active year and one that shows promise of greater effort for the year to come.

Respectfully submitted,

E. D. Greenwood, M.D., *Chairman*.

#### NECROLOGY

C. S. Huffman, Chr., Columbus; J. D. Colt, Sr., Manhattan; E. C. Duncan, Fredonia.

#### *To the House of Delegates:*

The Committee on Necrology submits the following list of members of the Kansas Medical Society whose deaths have been reported since the last meeting of the House of Delegates:

<i>Name and Address</i>	<i>Age</i>	<i>Date</i>
Dr. Fred D. Baty, Elkhart	43	May 8 1949
Dr. William A. Klingberg, Hope	74	May 10
Dr. Thomas C. Hinkle, Onaga	73	May 13
Dr. Guy L. Millington, Girard	70	May 16
Dr. Paul E. Conrad, Hiawatha	54	May 20
Dr. Frederic W. Hall, Winfield	37	May 21
Dr. Frederick S. Hawes, Russell	76	June 14
Dr. Ira B. Chadwick, Coffeyville	80	June 16
Dr. David E. Green, Pleasanton	80	June 20
Dr. Daniel C. Baer, Mound Ridge	91	June 26
Dr. Ben F. Coffin, Kansas City	68	June 28
Dr. John C. Lardner, Fort Scott	82	June 28
Dr. Charles B. Stephens, Osawatimie	62	July 20
Dr. George A. Spray, Wichita	68	July 21
Dr. John S. Vermillion, Maize	72	Aug. 9
Dr. Simon P. Steelsmith, Abilene	93	Aug. 22

# THE Lattimore-Fink Laboratories

TOPEKA, KANSAS

J. L. Lattimore, A.B., M.D., *Director*

A. A. Fink, M.D., *Pathologist*

A. C. Keith, B.S., *Chemist*

H. C. Ebendorf, M.T., *Serologist*

L. A. Hull, A.B., *Bacteriologist*

PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY,  
HEMATOLOGY AND PARASITOLOGY

*Containers furnished upon request.*

OFFICES:

Topeka, Kan.

El Dorado, Kan.

Sedalia, Mo.

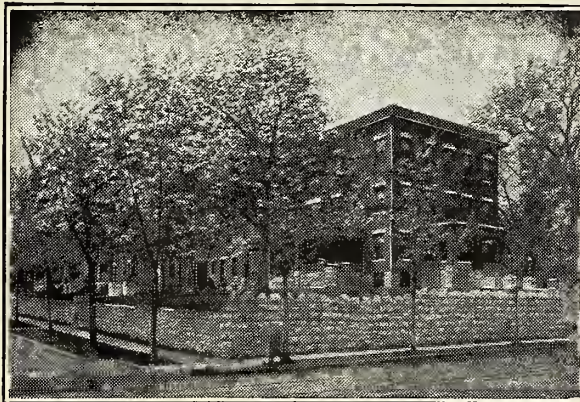
McAlester, Okla.

## THE MAJOR CLINIC ASSOCIATION

3100 EUCLID AVENUE

KANSAS CITY, MISSOURI

A Well  
Equipped  
Institution  
for the  
Nervous and  
Mental  
Diseases and  
Alcohol  
Drug and  
Tobacco  
Addictions



Beautiful  
Location  
Large,  
Well Shaded  
Grounds  
Spacious  
Porches,  
All Modern  
Methods for  
Restoring  
Patients to a  
Normal  
Condition

HERMON S. MAJOR, M.D.  
*Medical Director*

HERMON S. MAJOR, JR.  
*Business Manager*



Dr. Claudius E. Bandy, Bucklin	72	Aug. 27
Dr. Paul E. Belknap, Topeka	57	Aug. 29
Dr. Charles O. Mays, Liberal	68	Sept. 1
Dr. Chilton W. McLaughlin, Kansas City	73	Sept. 22
Dr. Norris L. Rainey, Wichita	54	Sept. 26
Dr. Van C. VanVoorhis, Robinson	82	Oct. 1
Dr. Joseph F. Imperatrice, Larned	47	Oct. 4
Dr. Johann N. Dieter, Abilene	68	Oct. 9
Dr. Earle R. Furgason, Independence	45	Nov. 1
Dr. Charles H. Dixon, Wichita	67	Nov. 2
Dr. Alexander C. Flack, Fredonia	90	Nov. 14
Dr. Lawrence S. Wilson, McCune	78	Nov. 14
Dr. Herbert A. Browne, Galena	71	Nov. 20
Dr. Rinhart F. Kippenberger, Scott City	51	Nov. 21
Dr. William T. Grove, Eureka	83	Nov. 25
Dr. Turner W. Reid, Gardner	66	Dec. 5
Dr. James E. McManis, Havensville	82	Dec. 11
Dr. Samuel M. Anderson, Wichita	73	Dec. 11
Dr. Adolph Boese, Coffeyville	59	Dec. 26

1950

Dr. Ross Weaver, Concordia	57	Jan. 8
Dr. Howard M. Wheeler, Kansas City	61	Jan. 11
Dr. Robert Marion Markham, Pittsburg	87	Jan. 30
Dr. Frank Foncannon, Emporia	60	Feb. 1
Dr. Eugene Pile, Ashton	90	Feb. 14
Dr. Edward K. Lawrence, Hiawatha	68	Feb. 21
Dr. George R. Dean, McPherson	78	Feb. 28
Dr. William C. Heaston, McPherson	77	Mar. 4
Dr. John E. Attwood, La Crosse	74	Mar. 5
Dr. James H. Pennington, Dodge City	49	Mar. 8

Respectfully submitted,

C. S. Huffman, M.D., *Chairman.*

## PUBLIC HEALTH AND EDUCATION

J. O. Austin, Chr., Garden City; H. R. Barnes, Hutchinson; M. L. Bauman, Parsons; V. E. Brown, Sabetha; N. A. Burkett, Council Grove; R. D. Grayson, Overland Park; D. T. Loy, Great Bend; O. L. Martin, Salina; Fred Mayes, Wichita; R. H. Moore, Lansing; L. W. Reynolds, Hays; C. E. Robison, Hoisington; C. O. Stensaas, Arkansas City; W. W. Summerville, Kansas City.

*To the House of Delegates:*

Although there has not been a formal meeting, your committee has endeavored to create an interest in good public relations through several means. Certain county societies have sponsored health columns in local newspapers. Occasional radio broadcasts have been given and considerable interest has been shown in the purchase of a series of transcriptions on health.

One county society prepared a transcription, using local talent to portray the characters in Dr. Crumline's book. Other radio presentations have been given in the form of prepared speeches. The committee has also encouraged its members to become informed on the problem of socialized medicine so that correct information on this subject might be given whenever an opinion is requested.

Your chairman attended the public relations conference of the American Medical Association in Chicago and also assisted in the preparation of the program presented for county secretaries of the Kansas Medical Society. As a group the committee has attempted to encourage support for the A.M.A.'s educational campaign and is of the opinion that every physician should cooperate in creating a bet-

ter understanding on the part of the public for what the medical profession is trying to do.

Respectfully submitted,

John O. Austin, M.D., *Chairman.*

## RURAL HEALTH

T. J. Walz, Chr., St. Francis; S. A. Anderson, Clay Center; L. E. Beal, Fredonia; H. S. Bennie, Alma; D. C. Chaffee, Abilene; R. M. Daugherty, Meade; J. C. Dysart, Sterling; J. T. Fowler, Osawatomie; H. L. Graber, Nickerson; A. J. Horejsi, Ellsworth; R. E. Jordan, Holton; Ray Meidinger, Hiawatha; R. E. White, Garnett; M. E. Robinson, Goodland.

*To the House of Delegates:*

The Committee on Rural Health held its first meeting this year at Hays. Rural health problems were discussed and it was decided the most urgent problem was that of locating doctors in small towns which at present do not have doctors.

The state was divided into sections corresponding to the localities of the committee members. Each committeeman was assigned the towns in his particular area which were to be investigated and analyzed regarding their respective needs for a doctor and second, their possibilities of supporting a doctor once he is acquired. Many doctorless towns have been accommodated by locating doctors in them and the program is constantly being carried on.

It is realized that while many communities need local doctors it is not favorable to place physicians in some because of their small size and nearness to larger towns which are well staffed. It is believed by the committee that now anyone in Kansas is within reasonable reach of medical care.

This committee was represented at the National Council on Rural Health in Kansas City on February 3, 4, and 5. There a number of rural health problems were discussed, more especially the one of building hospitals in rural communities, but with some difficulties arising therefrom. Among these is the matter of building hospitals larger than required, and difficulty of financing operation after completion. Deficits should be expected and arranged for accordingly.

Proper advance planning was stressed in order to avoid later difficulties. The following quotation was made by one speaker:

"Planning without action is futile,  
Action without planning is fatal."

Respectfully submitted,

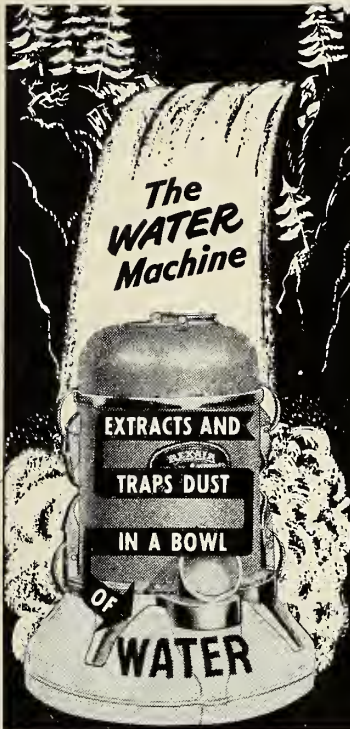
T. J. Walz, M.D., *Chairman.*

## STORMONT MEDICAL LIBRARY

A. K. Owen, Chr., Topeka; C. M. Alderson, Dodge City; E. Beebe, Olathe; A. R. Chambers, Iola; E. L. Kalbfleisch, Newton; E. J. McCreight, Liberal; F. A. Moorehead, Neodesha; W. L. Valk, Kansas City.

*To the House of Delegates:*

This committee had no meetings this past year. The library is still situated on the third floor of the



## Rexair Traps Household Dust in Water

WASHES AIR, HUMIDIFIES, VAPORIZES, DOES ALL  
VACUUM CLEANING WORK, AND EVEN SCRUBS FLOORS!

Water is the secret of Rexair's dust-filtering action. Rexair—and only Rexair—passes the stream of dust-filled air completely through a churning bath of water, discharging clean, humidified air into the room. Rexair direct factory sales and service branches are listed in phone books of principal cities of United States and Canada. Call your local branch or write direct to:

**REXAIR DIVISION, Martin-Parry Corporation**  
Box 964 MQ 4 • TOLEDO, OHIO

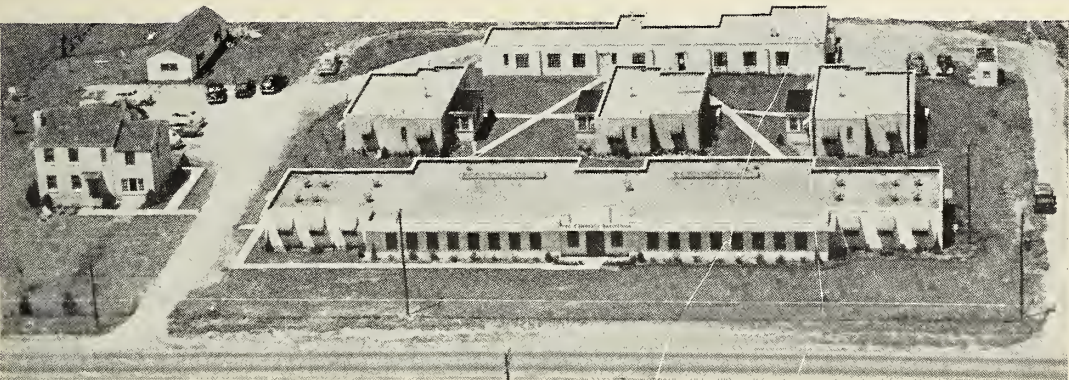
► **EXCLUSIVE WITH Rexair**  
Fully Guaranteed by a 69-Year-Old Company  
OVER 1,000,000 SATISFIED USERS

## RESEARCH FOUNDATION SANITARIUM

Northeast 23rd and Spencer Road

Phone 54-8405

OKLAHOMA CITY, OKLAHOMA



ESTABLISHED IN 1939

for treatment of

NERVOUS AND MENTAL DISORDERS

Coyne H. Campbell, M.D., F.A.C.P., F.A.A.P.  
Harold G. Sleeper, M.D.

Samuel A. Capehart, M.D.  
Irene Jennings, R.N., Supervisor

J. H. Barthold, Business Manager



state house, in very pleasant rooms. There was considerable increase in the number of members using the rooms throughout all last year, but the number of members requesting shipment of books was really far too small. The library has a much increased sphere of usefulness by serving out-of-town members, and the service is available to any member of the State Society.

Respectfully submitted,

A. K. Owen, M.D., *Chairman*.

#### STUDY OF HEART DISEASE

P. W. Morgan, Chr., Emporia; P. M. Clark, Jr., Independence; K. L. Druet, Salina; C. W. Erickson, Pittsburg; L. H. Leger, Kansas City; F. J. McEwen, Wichita; H. T. Morris, Topeka; G. L. Norris, Winfield; H. W. Palmer, Wichita; L. O. Peckenschneider, Halstead; J. M. Porter, Concordia; Walter Stephenson, Norton.

*To the House of Delegates:*

Your committee for the Study of Heart Disease held its last meeting February 26, 1950.

The committee, represented by its chairman, has functioned as the advisory council on cardiovascular problems to the Director of the Kansas State Board of Health. In the same manner the committee has cooperated with the Dean of the School of Medicine of the University of Kansas in planning postgraduate programs.

A year ago one of the objectives of this committee was realized when the Kansas Heart Association was organized, incorporated and became an affiliate of the American Heart Association. Mr. Clarence Beck, ex-attorney general, contributed freely of his time and skill in writing the constitution and by-laws and he personally handled all legal aspects of the organization.

County and regional components of the Kansas Heart Association are being organized in a number of sections of the state. These chapters are completely organized and affiliated and are at work on local projects. The Lyon County Chapter was organized in October, 1949, the Sedgwick Chapter in December, 1949, and the Shawnee Chapter in January, 1950. A central administrative office has been established in Topeka and the director is Mr. Ralph Nixon. The statewide professional objective is the detection of and advice concerning heart disease in children (see details in March issue of the *Journal of the Kansas Medical Society*).

A one-day cardiac conference was arranged for any and all members of the profession in October and was well attended. Dr. Harry Ungerleider, medical director of the Equitable Life Assurance Society, came from New York to address the meeting.

The committee is planning a one-day cardiovascular conference in Topeka in November for any physician in the state—no limit on attendance—and is arranging a conference of several days on cardiovascular problems for physicians who have had ex-

tensive previous training in the field. This meeting will be conducted by Dr. Robert H. Bayley, professor of medicine at the University of Oklahoma School of Medicine, an outstanding teacher, and attendance will be limited to the first 40 matriculants. The entire profession of the state will be circularized on the matter. The meeting will be climaxed and concluded on October 26 with the annual meeting of the trustees of the Kansas Heart Association and a banquet. The meeting will be held in Emporia.

Respectfully submitted,

Philip W. Morgan, M.D., *Chairman*.

#### VENEREAL DISEASE

J. P. Berger, Chr., Wichita; J. K. L. Choy, Topeka; M. H. Delp, Kansas City; L. E. Filkin, Concordia; M. E. Hyde, Ottawa; H. E. Neptune, Salina; J. F. Nienstedt, Beloit; G. S. Voorhees, Leavenworth.

*To the House of Delegates:*

Your Committee on Venereal Disease Control held one meeting during the year at which the subjects of syphilis, case finding, treatment and reporting were reviewed. Details such as the distribution of penicillin, its administration, etc., are essentially minor in contrast with other problems over which your committee has no authority, and since these details can not be effectively enforced until the principal difficulty is resolved, the committee elected to make no recommendations regarding treatment at this time.

It is suggested that the House of Delegates inquire into the situation confronting the division of venereal disease control of the State Board of Health and review such problems as department direction, the budget, disbursement of funds, drug purchases and supervision of local problems. This suggestion implies no criticism of any person but is directed toward the hope of correcting a condition.

Your committee has studied this program with some care, and after exploring various avenues, has reached the sober conclusion that venereal disease control in Kansas will never rise above its present level until the problems mentioned in the earlier paragraph have been clearly understood and rectified. Specific recommendations from your committee on the diagnosis, management or reporting of syphilis at a public health level would, in essence, be futile because the machinery for placing them into practice seems at the moment to be inadequate.

The division of venereal disease control of the State Board of Health has done a creditable piece of work in spite of obstacles. The committee, however, is obligated to recommend for consideration of the House of Delegates what it believes to be the best possible medical program for the people of this state and begs to report that no adjustment seems ade-

**Cook County Graduate School of Medicine****ANNOUNCES CONTINUOUS COURSES**

**SURGERY**—Intensive Course in Surgical Technic, Two Weeks, starting April 17, May 15, June 19.  
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting April 3, May 1, June 5.  
Personal Course in General Surgery, Two Weeks, starting April 17.  
Surgery of Colon & Rectum, One Week, starting April 10, May 15.  
Esophageal Surgery, One Week, starting June 5.  
Breast & Thyroid Surgery, One Week, starting June 26.  
Thoracic Surgery, One Week, starting June 12.  
Gallbladder Surgery, Ten Hours, starting April 24.  
Fractures & Traumatic Surgery, Two Weeks, starting June 12.  
Basic Principles in General Surgery, Two Weeks, starting September 11.

**GYNECOLOGY**—Intensive Course, Two Weeks, starting April 17, June 19.  
Vaginal Approach to Pelvic Surgery, One Week, starting May 15.

**OBSTETRICS**—Intensive Course, Two Weeks, starting April 3, June 5.

**PEDIATRICS**—Intensive Course, Two Weeks, starting April 3.  
Personal Course in Cerebral Palsy, Two Weeks, starting July 31.  
Personal Course in Diagnosis & Treatment of Congenital Malformations of the Heart, Two Weeks, starting June 5.

**MEDICINE**—Intensive General Course, Two Weeks, starting April 24.  
Electrocardiography & Heart Disease, Two Weeks, starting July 17.  
Hematology, One Week, starting May 8.  
Gastro-enterology, Two Weeks, starting May 15.  
Liver & Biliary Diseases, One Week, starting June 5.  
Gastroscopy, Two Weeks, starting May 15, June 12.

**DERMATOLOGY**—Formal Course, Two Weeks, starting May 8. Informal Clinical Course every two weeks.

**UROLOGY**—Intensive Course, Two Weeks, starting April 17.  
Cystoscopy, Ten Day Practical Course, every two weeks.

**GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES**  
**TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL**  
Address: Registrar, 427 S. Honore St., Chicago 12, Ill.

**Make Hotel Reservations Now**

**for the**

**91st Annual Session**

**Kansas Medical Society**

**Wichita, Kansas May 15-18, 1950**

*Doctor . . .*

*Here are two great Spot Tests that simplify urinalysis.*

## **GALATEST**

The simplest, fastest urine sugar test known.

**A LITTLE POWDER  
A LITTLE URINE**



Galatest and Acetone Test (Denco) . . . Spot Tests that require no special laboratory equipment, liquid reagents, or external sources of heat. One or two drops of the specimen to be tested are dropped upon a little of the powder and a color reaction occurs immediately if acetone or reducing sugar is present. False positive reactions do not occur. Because of the simple technique required, error resulting from faulty procedure is eliminated. Both tests are ideally suited for office use, laboratory, bedside, and "mass-testing." Millions of individual tests for urine sugar were carried out in Armed Forces induction and separation centers, and in Diabetes Detection Drives.

The speed, accuracy and economy of Galatest and Acetone Test (Denco) have been well established. Diabetics are easily taught the simple technique. Acetone Test (Denco) may also be used for the detection of blood plasma acetone.

Write for descriptive literature.

**THE DENVER CHEMICAL MFG. CO., INC.**  
163 Varick Street, New York 13, N.Y.

## **ACETONE TEST**

**(DENCO)**

For the rapid detection of Acetone in urine or in blood plasma.

**COLOR REACTION IMMEDIATELY**

### **BIBLIOGRAPHY**

Joslin, E. P., et al: Treatment of Diabetes Mellitus—8 Ed., Phila., Lea & Febiger, 1946—P. 241, 247.

Lowsley, O. S. & Kirwin, T. J.: Clinical Urology—Vol. 1, 2 Ed., Balt., Williams & Wilkins, 1944—P. 31.

Duncan, G. G.: Diseases of Metabolism—2 Ed., Phila., W. B. Saunders Co., 1947—P. 735, 736, 737.

Stanley, Phyllis: The American Journal of Medical Technology—Vol. 6, No. 6, Nov., 1940 and Vol. 9, No. 1, Jan., 1943.



quate until these major considerations are solved.

Respectfully submitted,

J. P. Berger, M.D., *Chairman.*

#### VETERANS ADMINISTRATION AFFAIRS

J. H. A. Peck, Chr., St. Francis; J. W. Cavanaugh, Topeka; O. W. Davidson, Kansas City; Dwight Lawson, Topeka; E. A. McClintock, Topeka; C. B. Trees, Topeka.

*To the House of Delegates:*

Although the medical society discontinued its agreement with the Veterans Administration a full year ago, this committee has continued to assist the Veterans Administration on any problems referred to it. During the course of the year nothing of

major importance has arisen but the applications of numerous physicians have been certified to the Veterans Administration through this committee and an occasional problem with reference to individual matters has been taken up with the persons concerned.

In brief, the committee now serves in a liaison capacity between the medical profession and the Veterans Administration. It stands ready to assist the Veterans Administration whenever needed and will continue to serve the medical profession in its relationship with the Veterans Administration.

Respectfully submitted,

J. H. A. Peck, M.D., *Chairman.*

## Kansas Physicians' Service

*To the House of Delegates:*

In reporting for Blue Shield I am happy to say that commendable progress is being made. The Blue Shield Board has received many letters of praise and encouragement during the past year. There have also been messages of constructive criticism and these are even more welcome for we realize, full well, there are many faults and short-comings of the Blue Shield Plan, and we want the doctors of Kansas to assume their responsibility for Blue Shield success and to help us improve our voluntary health insurance effort.

According to Public Health Economics as published by the University of Michigan, the most important thing that occurred nationally in the Blue Shield realm in 1949 was the abandonment on the part of the A.M.A. of its negative attitude toward voluntary health insurance plans as in the early 1940's, and the inclusion as in point three of the A.M.A. program for improved national health, "Further development of, and wider coverage by voluntary hospital and medical care plans to meet the costs of illness with rapid extension into rural areas." The A.M.A. has so tempered its official recommendations that medical societies can now support Blue Shield Plans.

In Kansas Physicians' Service, the Kansas Blue Shield Plan, the most noteworthy accomplishment was the establishment of an active program of physician relations under the direction of Proctor Redd, including the publication of a monthly "Memo" to physicians. The new contract which became effective on December 1, after much serious deliberation and study on the part of the executive board, is also heralded as further progressive development and offers improved benefits to both patients and physicians. It also provides for better and more complete cooperation with Blue Cross.

A doctor bill was paid every 14½ minutes during

1949 by Blue Shield. This easily understood statement of fact gives evidence of the growth of Kansas Blue Shield since its origin by the Kansas Medical Society in December of 1945. At the end of December, 1949, 182,625 members were enrolled in Kansas Blue Shield. By the end of January, 1950, 191,899 were enrolled. At the end of January, 1950, we discovered that we had paid out \$158,809.19 for the month in physicians' fees and operating expense. Our operating expenses were 11.9 per cent of our income. Our reserve account at the end of January, 1950, was \$85,102.78 or 44 cents per enrolled member. There is a steadily rising increase in usage of the Blue Shield Plan in Kansas.

Recent new developments include the Bank Deduction Plan for the payment of Blue Cross-Blue Shield membership dues and the Merit Rating Plan. The Merit Rating Plan, available since January, makes it possible to recognize the lesser use of services made by large employee groups by adjusting dues at the end of a year's experience. This new program should be an incentive for adding to our present 2,820 groups. It should also help keep existing groups enrolled.

Doctors John Lattimore, president of Kansas Blue Cross, Glen Kassebaum, a trustee of Blue Cross, Warren Bernstorff, vice president of Blue Shield, Dwight Lawson, secretary-treasurer of Blue Shield, and Conrad Barnes, president of Blue Shield, attended the International Blue Shield Conference and Blue Cross Conference in Montreal, Canada, the latter part of February and the first day of March, 1950. At this conference the various problems concerning service income limits, methods of enrollment, and plan benefits and exclusions were studied intensively. The National Blue Shield Enrollment Agency awaits further progress until the remainder of the \$375,000 needed is contributed. Your Kansas Blue Shield has already signed the contribution

ACCIDENT • HOSPITAL • SICKNESS  
**INSURANCE**  
 FOR PHYSICIANS, SURGEONS, DENTISTS  
 EXCLUSIVELY



\$5,000 accidental death	\$8.00
\$25.00 weekly indemnity, accident and sickness	Quarterly
\$10,000.00 accidental death	\$16.00
\$50.00 weekly indemnity, accident and sickness	Quarterly
\$15,000.00 accidental death	\$24.00
\$75.00 weekly indemnity, accident and sickness	Quarterly
\$20,000.00 accidental death	\$32.00
\$100.00 weekly indemnity, accident and sickness	Quarterly

COST HAS NEVER EXCEEDED AMOUNTS SHOWN.  
 ALSO HOSPITAL POLICIES FOR MEMBERS' WIVES AND CHILDREN AT SMALL ADDITIONAL COST

85c out of each \$1.00 gross income used  
 for members' benefits

\$3,700,000.00 Invested Assets  
 \$16,000,000.00 Paid for Claims

\$200,000.00 deposited with State of Nebraska for  
 protection of our members

Disability need not be incurred in line of duty—benefits from  
 the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION  
 PHYSICIANS HEALTH ASSOCIATION

48 years under the same management

400 FIRST NATIONAL BANK BLDG., OMAHA 2, NEBRASKA

## POSTGRADUATE COURSE

in

Obstetrics, Gynecology, and Pediatrics  
 Problems of the Newborn  
 May 22-26, 1950

## INTERNAL MEDICINE

May 15-19, 1950

Diagnosis and treatment of the common  
 problems of practice will be emphasized.  
 Clinical presentation of patients will be  
 extensively employed.

Please address requests for information to:

Director, Division of Postgraduate Studies,  
 Washington University School of Medicine

4580 Scott Avenue  
 Saint Louis 10, Missouri

## A BIG TIME-SAVER FOR EVERY DOCTOR



This handy booklet for new mothers was "built to doctors' orders". It contains blank forms for filling in your instructions and formulas.

It provides a permanent case-history record. A memo will bring you a sample...or as many as you want for your daily practice... without obligation.

Many doctors are prescribing "Daricraft Homogenized Evaporated Milk". It is always uniform, safe, sterilized, easy to digest, and high in food value and minerals. Daricraft contains 400 U. S. P. units of Vitamin D per pint.



PRODUCERS CREAMERY CO., SPRINGFIELD, MO.



agreement and has pledged its maximal allotted share of the expense. The time set for receipt of the total amount needed is September 1, 1951, but it is sincerely hoped that the needed sum will be raised long before this deadline date. The National Enrollment Agency for Blue Cross has already been established.

In concluding this report I desire to admonish each Kansas physician to be a Blue Shield public relations agent when dealing with each of his patients. Your Blue Shield Board of Trustees also believes that a wider base of understanding must be established to include Kansas physicians, their Blue Shield Board of Directors, and the employed staff headed by Mr. Sam Barham, executive director. It is hoped that each medical society in the state will soon have an informative and advisory meeting concerning Blue Shield in cooperation with the physician representative of the Blue Shield physicians' relations program in each councilor district. Please become more Blue Shield conscious. Take an active part in the county-wide Blue Cross-Blue Shield enrollment program when it comes into your district or county. Be alert to thoroughly acquaint the influential and sizable groups of your community with the advantages of Blue Cross-Blue Shield. Please do not hesitate to contact your Blue Shield officers, board members, and employed staff concerning your impressions of your Blue Shield Plan.

Respectfully submitted,

Conrad M. Barnes, M.D., *President.*

### American Board Examinations Obstetrics and Gynecology

The next written examination and review of case histories (Part I) for all candidates will be held in various cities of the United States and Canada on dates to be announced.

Arrangements will be made so far as is possible for candidates to take the Part I examination (written paper and submission of case records) at places convenient for them. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination to be held May 21 to 28 inclusive, 1950, at The Shelburne, Atlantic City, New Jersey. Notice of the exact time and place of the Part I and Part II examinations will be sent all candidates well in advance of the examination date.

New bulletins are now available for distribution upon application and give details of all changes in Board requirements and regulations made at the annual meeting of the Board held in Chicago, Illinois, May 8 to 14 inclusive, 1949.

Application forms and bulletins are sent upon

request made to Paul Titus, M.D., Secretary-Treasurer, American Board of Obstetrics and Gynecology, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

## ANNOUNCEMENTS

May 12-13—Symposium on Fundamental Cancer Research, Cancer Pathology Conference, South Central Regional Meeting, College of American Pathologists, Texas Medical Center, Houston, Texas. Information from William O. Russell, M.D., 2310 Baldwin Street, Houston, Texas.

May 14-19—International and Fourth American Congress on Obstetrics and Gynecology, New York, New York.

MAY 15-18—91st ANNUAL SESSION, KANSAS MEDICAL SOCIETY, WICHITA, KANSAS.

May 15-20—Course on Endocrinology, University of Illinois College of Medicine, Chicago, Illinois. To be held at La Salle Hotel, Chicago. Fifty to 100 Registrations Accepted. A.C.P. Members, \$30 fee, others \$60.

June 26-30—Annual Session, American Medical Association, San Francisco, California.

July 19-20—Fourth Annual Rocky Mountain Cancer Conference, Denver, Colorado. No Registration Fee. Write Cancer Conference, 519 - 17th Street, Denver, for Hotel Reservations.

August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

### CLASSIFIED ADVERTISEMENTS

**DOCTOR WANTED**—Excellent future opportunity for building surgical practice. Commission or salary on a contract basis. Write the Journal 18-50.

**FOR SALE**—Almost new office chair, diathermy machine, examining table, medicine case, instruments, medical library. Write the Journal 19-50.

**FOR SALE**—One microscope, complete; one diathermy with attachments, one bedside unit x-ray with tube, lead lined box for large films, developing tank, intensifying screens for large and small films, viewing box for x-ray films, standard base therapeutic light. Write the Journal 20-50.

**FOR SALE**—X-ray machine, model 17-75, with fluoroscopic unit. Also electrocardiograph machine, model B. Write the Journal 21-50.

**VACATION SUBSTITUTE**—Will take doctor's practice during his vacation for three weeks starting June 17. Write the Journal 22-50.

**WANTED**—An internist and a pediatrician to join well trained group with fine equipment in town of 12,000. Excellent income. Write the Journal 23-50.

**FOR SALE**—Office equipment including diathermy, Al-pine and infra red lamps, Sorensen suction and compressor, sterilizer (gas), scales, instruments, folding operating table and pad, medicines and medical books. Write the Journal 24-50.

**WANTED TO PURCHASE** by group of doctors, a hospital-clinic in the state of Kansas. In replying please give full details including description of hospital, location, size of town, trade territory, etc. Write the Journal 25-50.

**FOR SALE**—McKesson anesthetic machine, one year old. Four gas unit with cyclopropane and ether attachments. Has had very little use. Write the Journal 26-50.

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

MAY, 1950

No. 5

## Treatment of Far Advanced Malignancy: Report of Four Cases in Children

G. M. Tice, M.D.

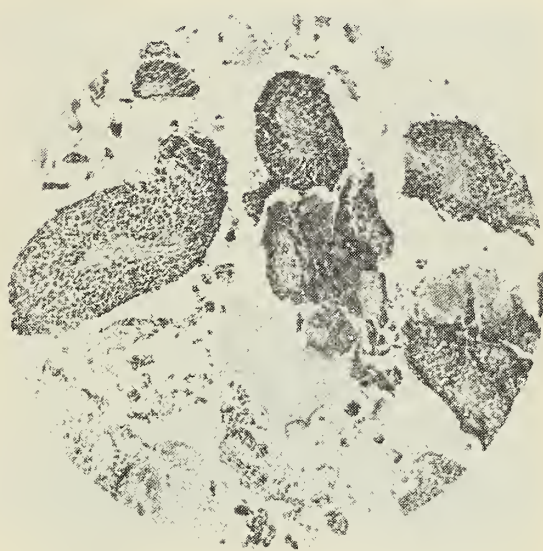
Kansas City, Kansas

After several years in the practice of the specialty of radiology, during which interval many cases of malignancy have come under observation, one looks back and is impressed by the occasional case of apparently hopeless malignancy that is still living in relatively good health following management by radiation methods, either as the sole means of treatment or in combination with surgery.

Four of such malignant cases are presented with emphasis on the fact that in some cases, if a cure is to be secured, normal tissue must be damaged to the point that plastic repair will be needed.

### Case 1, V.B., H 45227, D 18575

This 12-year-old white girl was admitted on July 6, 1933, complaining of a painful swollen tongue. About one year before admission a lump, two centimeters in diameter, was noted beneath the tongue. The patient was given two treatments a month with x-ray for four months elsewhere with temporary



Case 1. Perithelial sarcoma of the tongue.



Case 1, V.B. Left, before treatment, July 6, 1933. Center, after treatment, October 6, 1933. Right, ten years later, March 1, 1943.



regression of the mass, but immediate regrowth. Treatment by other physicians, both of the initial sublingual mass and a left cervical node, was done with a diagnosis of an inflammatory process.

*Physical Examination:* The patient was admitted having a hemoglobin of 42 per cent. The tongue was markedly infiltrated with tumor and it was swollen so that the mouth could not be closed. The lower incisors were imbedded in the under surface of the tongue. Enlarged glands in the left submaxillary area and cervical chain were present. A left cervical node was removed for biopsy.

The biopsy report was perithelial sarcoma (8-1703). The child was miserable because she could not drink water and the weather was hot. She was very much dehydrated.

X-ray therapy was delivered, cross-firing the tongue and cervical glands between July 13, 1933, and July 24, 1933, as follows:

Right lateral cervical areas and lower face	1000 r
Left lateral cervical area and lower face	1000 r
Posterior cervical area	1000 r
Directed at the tongue through an anterior portal	715 r

On September 21, 1933, she was readmitted. The tongue was now almost normal in size. Cervical

glands were swollen. The patient had no pain and could now take food and water.

Again it was deemed advisable to give a series of x-ray treatments. Therapy this time was as follows:

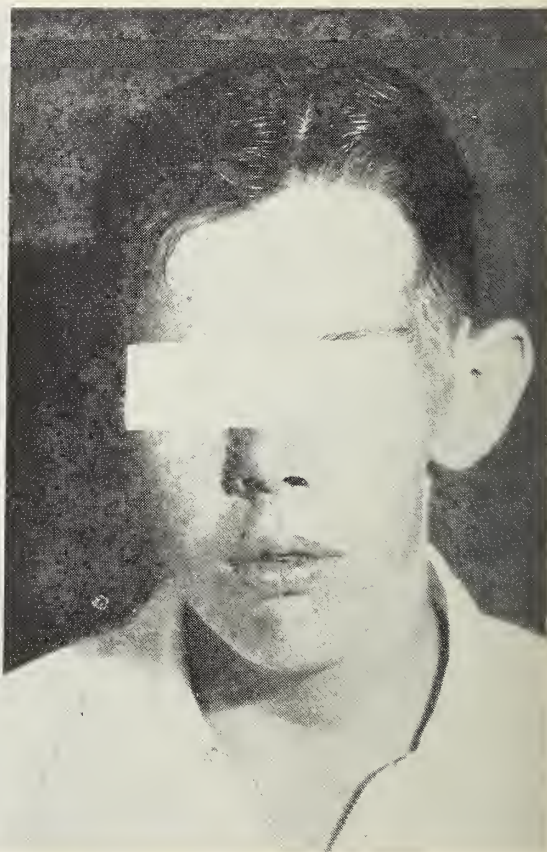
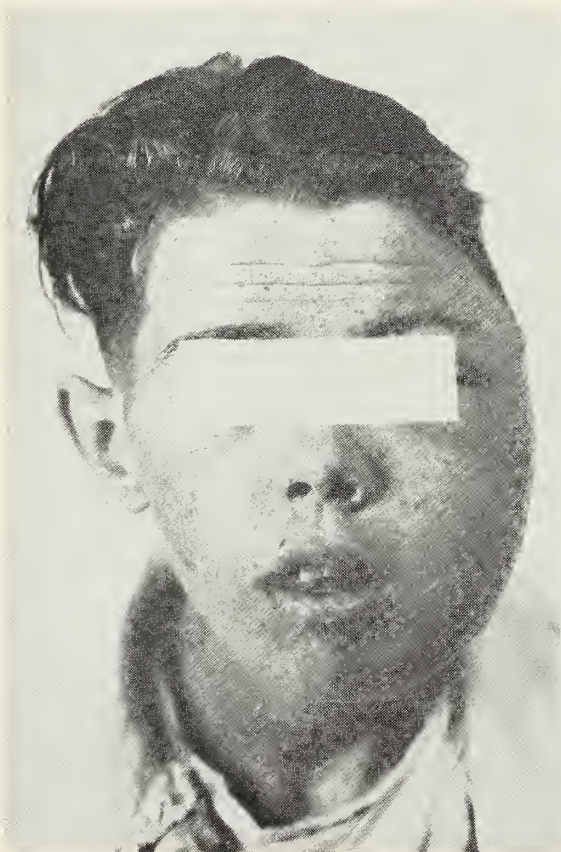
Lateral left cervical and lower face	600 r
Lateral right cervical and lower face	600 r
Posterior cervical	450 r

On February 8, 1934, each lateral cervical area and face received 250 r. At this time no tumor was seen. The tongue had a geographic appearance. She felt fine and had a hemoglobin of 65 per cent.

On January 25, 1939, the patient entered the hospital for removal of teeth. For the last five or six months the gums had been bleeding and teeth were loosened. At this time all teeth were removed. The patient was now 18 years old.

On April 13, 1948, the patient entered the hospital complaining of weight loss due to inability to swallow adequately. Examination showed a deformed tongue but no tumor. A granulomatous mass was seen in the upper esophagus. This was removed and biopsied and was reported not malignant.

On January 2 and January 8, 1949, the patient was examined by means of an esophagoscope. There was a stricture in the upper esophagus just below the pharynx that was dilated.



Case 2, M.K. Left, before treatment, July 23, 1932. Right, after treatment, December 26, 1932.



On March 13, 1949, x-ray examination showed narrowing of the esophagus just below the pharynx due to a stricture.

This patient has been followed and reports some relief following the dilatation. She wears dentures. She has now been followed for a period of 16½ years with no recurrence of her tumor, and is fairly comfortable.

**Case 2, M.K., H 40629**

This 14-year-old boy entered the hospital on July 23, 1932, complaining of swelling and pain in the left side of his face and neck.

In February, 1932, six months before, he developed a gland the size of a walnut in the left cervical area. This disappeared soon. In March swelling of the left side of the face developed. This progressively increased in size. He lost 34 pounds of weight during this interval, and was unable to open his mouth to eat satisfactorily.

*Physical Examination:* This revealed a tumor that extended from the left temporal region down, causing swelling of the eye, neck, and region posterior to the ear. The mass was very hard. Lymph glands were enlarged in the cervical chains on the left.

Biopsy of a lymph gland was reported degenerating endothelioma of lymph gland (R-2112).

The treatment consisted of a total of 1975 r divided between the lateral, anterior, and posterior aspect of the left side of the face, delivered between July 27 and August 22, 1932. This was followed by a series of local applications of radium packs from August 25 to August 27, 1932, for a total dose of 2835 mg. hours. The patient was dismissed August 27, 1932. At that time there was some regression of the tumor.

The patient was readmitted on October 10, 1932. An additional course of treatment cross-firing the tumor area for a total of 2300 r was given. On completion of this series the left eye was open and swelling of the glands had almost disappeared.

The next admission was on December 26, 1932. At this time glands were small. X-ray therapy totaling 1705 r was given. Because of anemia (hemoglobin 63 per cent) a transfusion was administered.

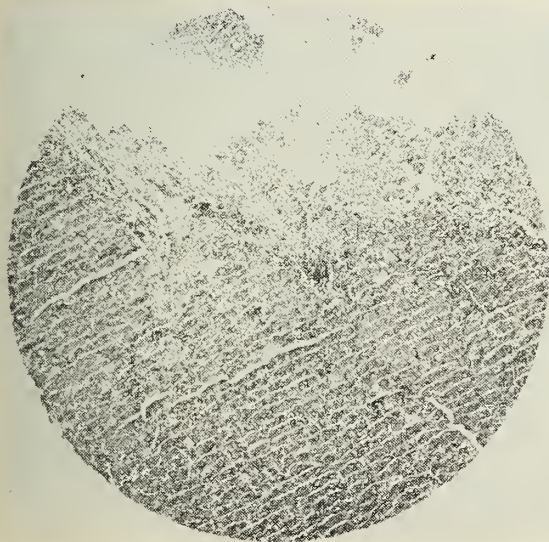
The last x-ray treatment was given to the left lateral face on January 20, 1934. A total dose of 400 r was given. No tumor was seen at this time.

A letter from the doctor who subsequently followed this case is quoted in part: "He first came to me December 23, 1941. He was well nourished and working. His face and neck showed a scar and is atrophied as a result of his operation and x-ray treatments. There is no indication of a recurrence of his sarcoma.

"The thing of absorbing interest to me is the effect that the x-ray has had on the salivary and pituitary glands. The parotid gland on the side treated apparently has been entirely destroyed and the secretory function of the opposite parotid has been greatly reduced so that he suffers constantly from dryness of the mouth. The pituitary gland seems also to have been affected so that he has developed a diabetes insipidus. When I first saw him he was voiding three gallons of urine in 24 hours."

The patient has been followed through the years, having been contacted by letter on about January 1, 1950. He is working as a salesman and is in good health except for the sequellae due to radiation.

It has been 17½ years since initial therapy was given to this case.



Case 2. Endothelioma of cervical lymph glands.



Case 3. Osteosarcoma of the wall of the antrum.



**Case 3, M.W., H 43499**

This 12-year-old boy was admitted on February 28, 1933, to the University of Kansas Hospital with a history of a slight swelling of the right cheek for an indefinite period of time. There was a history of injury to the cheek two years prior to the admission from a fall.

*Physical Examination:* This showed a mass about the size of an English walnut. It was not movable or tender. It felt as hard as bone and continuous with bone. On oral examination the mass was found to extend down to about one centimeter above the alveolar margin on the right.

X-ray examination (25473) of the nasal accessory sinuses showed destruction of the lateral and superior walls of the antrum suggesting that this was a malignant lesion. On exploration of the right antrum a soft tissue tumor was found which filled the entire antrum. A portion of the right maxillary sinus wall was destroyed. The tumor extended through the maxillary sinus. It was removed. The pathologist reported osteosarcoma of the antrum.

Radiation therapy consisted of a capsule placed in the antrum containing radium for a total dose of 1000 mg. hours. Surface application with a radium pack of three centimeters added 2000 mg. hours more. X-ray therapy for a total dose of 4000 r cross-firing the right antrum and cervical area was used.

Additional therapy totaling 1220 r to the right and left antrum was given in May, 1933, and 900 r cross-fire was given the same areas in September, 1933.

This patient has been followed over the years. He was last seen on February 8, 1950. At this time

there was no recurrence of tumor. He has lost most of his teeth, doubtless due to radiation. Otherwise, his health is good.

It has been 17 years since this tumor was diagnosed and treated.

**Case 4, E.T., H 82394**

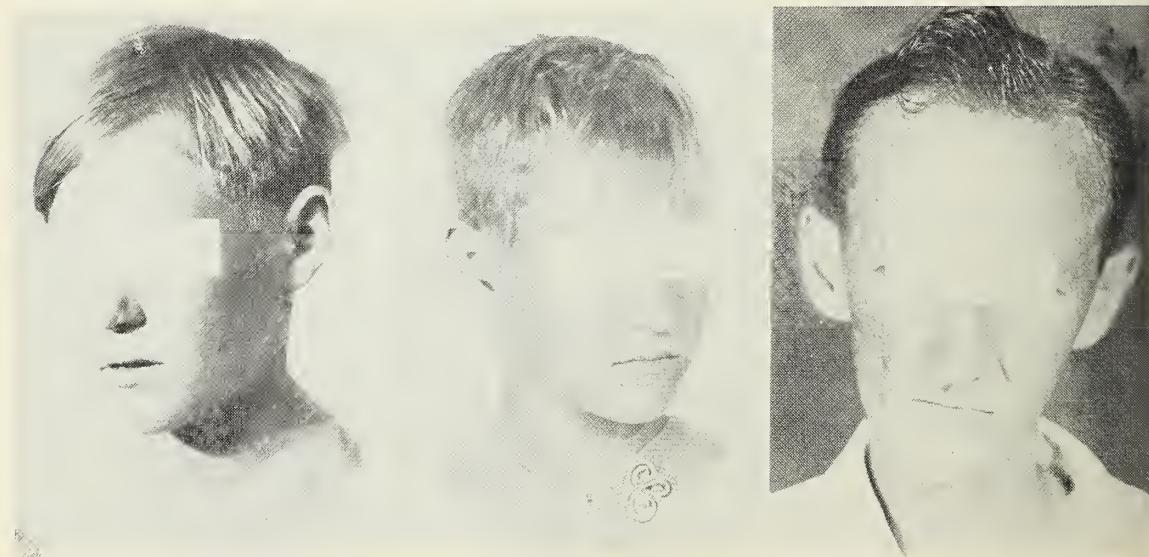
This 16-year-old boy presented himself with a swollen left antrum on February 10, 1940. In October of that year he noticed a painless swelling of the left cheek. This enlarged to the size of an egg and was lanced by his local doctor. In November the swelling increased and displaced the nose. He had x-ray therapy elsewhere, 11 treatments, for a total dose of 3070 r. Recently he had had throbbing headaches.

*Physical Examination:* This showed a marked swelling of the left cheek, extending down into the upper cervical area. The left eye was swollen almost shut. In the mouth a mass two centimeters in diameter protruded down from the hard palate. X-ray examination revealed a tumor of the antrum destroying the walls of the antrum (53775).

On February 22 antrotomy was done on the left and a capsule of radium was inserted for a dose of 1200 mg. hours. The tissue removed from the tumor was reported angio fibrosarcoma of the antrum (Z-455).

Between February 12, 1940, and March 5, 1940, x-ray therapy was applied, cross-firing the left antrum for a dose of 1325 r anterior and the same lateral to the antrum.

The patient was readmitted on March 10, 1940, showing swelling of the left face and displacement downward of the hard palate. Consultation with



Case 3, M. W. Left, before treatment, February 28, 1933. Center, after treatment, November, 1933. Right, ten years later.

Otorhinolaryngology indicated that "malignancy has gone so far that surgery is contra-indicated." At this time he was given 1000 r to the lateral left cervical area.

The patient was kept in the hospital during the spring and was dismissed July 22. During this interval there was a complete breakdown of the skin and bone over the antrum. On dismissal the defect appeared healthy and no tumor was seen.

During intervals the patient had several admissions on the plastic surgery service, the last one in March, 1947, at which time plastic repair was considered to be completed.

This boy was contacted in January, 1950. He is supporting himself and family as a foundry worker

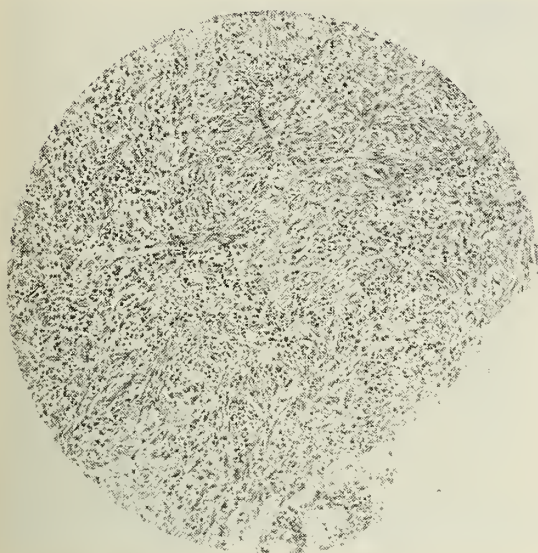
and has had no recurrence of his tumor, 10 years following his diagnosis.

#### Summary

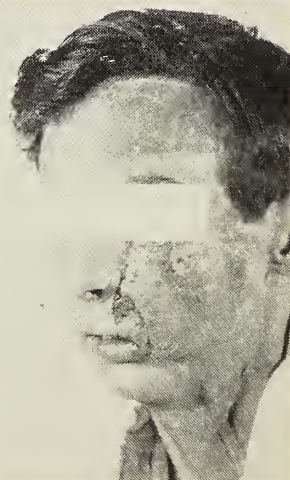
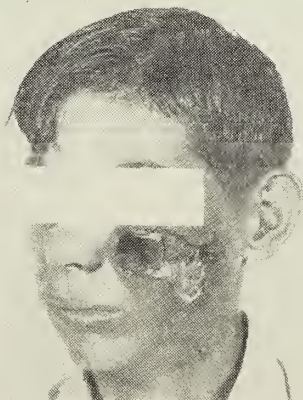
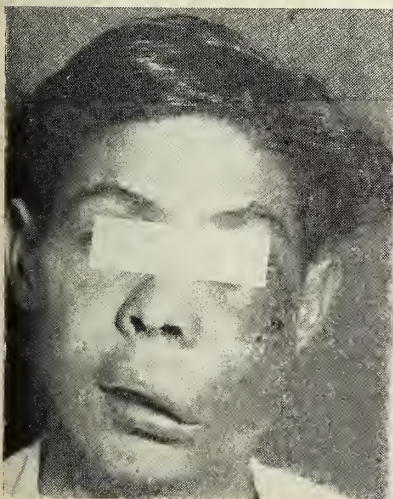
Four cases of advanced malignancy have been reported, all of whom have been followed for from 10 to 17½ years. None of them show tumor evidence at present. Treatment was primarily radiation in each case. In each case there has been radiation damage to a degree. In two cases young people have prematurely lost their teeth. In one case there may have been sufficient effect on the normal pituitary to produce diabetes incipidus. In one case there was an esophageal stricture, doubtless due to radiation, and in one case of malignant tumor of the antrum there was a complete breakdown of the soft tissue and bone of the face overlying the antrum.

#### Conclusion

If we are to cure cancer by the accepted methods of surgery and radiation we must be courageous. It must be recognized that normal tissue, when radiation is used, must be placed in jeopardy since it cannot be usually shielded from the therapeutic radiation. An attempt is made to extend the dose of radiation to the point where the tumor will be completely destroyed and normal tissue will recover. This ideal situation is not always possible. Due to conditions that are not within our control, such as individual variation in tolerance, and after care of the radiated parts, restitution of normal tissue may not be complete. Insuring the patient by the greatest skill possible that the tumor will be destroyed is the goal to be obtained. If there is unexpected normal tissue damage, plastic surgery will be needed to repair the defect. It is to be doubted if any of the four cases described would be alive today if the dose used had been governed by fear of damaging normal uninvolved tissue.



Case 4. Angio fibrosarcoma of the antrum.



Case 4, E.T. Left, after x-ray therapy elsewhere, February 19, 1940. Center, necrosis of soft tissues, July 22, 1940. Right, after plastic repair, December 18, 1947.



# Diagnosis of Chronic Obliterating Peripheral Arterial Diseases\*

F. Stanley Morest, M.D.\*\*

Kansas City, Missouri‡

In the diagnosis and treatment of chronic peripheral arterial diseases, the two most common conditions are peripheral arteriosclerosis obliterans and thromboangiitis obliterans. Peripheral arteriosclerosis obliterans is that particular form of arteriosclerosis in which degenerative vascular sclerosis plus thrombosis obliterates arterial lumina in extremities, incompletely or completely. Thromboangiitis obliterans occurs usually in arteries and frequently in veins of extremities and by means of an inflammatory process plus thrombosis leads to their incomplete, or complete, obliteration. More people are living longer to acquire arteriosclerosis, while there is a relative increase in thromboangiitis due to better diagnosis. According to Silbert,<sup>1</sup> the increase of thromboangiitis in women has risen from one per cent to four per cent because of their increased smoking of cigarettes the past 15 years.

## Diagnosis

In chronic obliterating peripheral arterial diseases, as in other of the 60 or more peripheral vascular diseases, diagnosis can be established 90 per cent of the time by the physician lending his ears to the patient's story and to the answers to pertinent questions; by using his eyes to inspect carefully the extremities in a good light; by palpating with experienced hands for the pulses of major peripheral arteries; and, by ascertaining with the back of the examining fingers skin temperatures of symmetrical areas on extremities.

It is progressive arterial obliteration that leads to tissue ischemia which is the basis for symptoms.

## A. SYMPTOMS

1. INTERMITTENT CLAUDICATION is pathognomonic of chronic obliterating peripheral arterial diseases. However, keep in mind that the claudication site may vary. Frequently, the patient has low back, hip, thigh, calf or arch claudication. Frequently, appearing unilaterally at first, it becomes bilateral. In my experience, the period after this symptom becomes bilateral is usually shorter in patients with arteriosclerosis than in patients with thromboangiitis.

Be alert for claudication equivalents! Patients invariably use their own terms in describing this complaint, volunteering such expressions as "my legs become weak while walking;" others employ such terms as "tired," or "fatigued" or "ache" or "hurt" or "tight" or "squeeze" or "cramps." Regardless by what names the patient depicts his plight, these terms have a common denominator, i.e., the patient states that he is forced to HALT before walking any farther. Recently, a private patient claimed that when his legs reached a state of fatigue prior to the onset of calf claudication, he could check his gait to a pace much slower than average, which enabled him to gain relief from leg fatigue and prevent the appearance of calf pain. However, on walking an average pace for the next three city blocks, he would be forced to "slow-down" again. Whenever he did not slow his pace, calf pain forced him to HALT.

As a rule, a claudication distance is the same for a given patient. There are a few patients whose claudication distance varies on different days. Claudication distance at an average pace when walking on the level should be recorded, because its decrease means further advancement of obliterating arterial disease; while its increase signifies development of collateral circulation through effective therapy. Claudication is brought on quicker on going up grade or steps, or on increasing speed in walking. Patients whose life habits include only a few steps of walking will not experience this important symptom. Unless an anginal syndrome, a severe hypertension, or other associated complications are present, you may request the patient to walk farther; and thus experience an initial episode of intermittent claudication.

2. REST PAIN occurs later in the course of obliterative arterial diseases than claudication in most instances. Usually coming on at night it may last for a few minutes or hours. The patient describes this symptom as a cramp, ache, severe numbness, or pain. There is more severe tissue ischemia at this stage with involvement of the sensory nerve terminals. Characteristic sites are the digits, foot or lower leg. Aggravated by elevation, rest pains are relieved temporarily by some degree of dependency, by massaging the part, or by walking about the room. The patient will be aroused from sleep and it is essential

\*Abstract of address before Leavenworth County Medical Society, Cushing Memorial Hospital, December 13, 1948.

\*\*From the Vascular Department, Research Clinic, the Cardiovascular Clinic, General Hospital No. 1, and the Vascular Section, Department of Medicine, Kansas University.

to record in the history how soon this episode manifests itself after the patient goes to bed. Shortening of the period of sleep indicates progression of the disease, while lengthening of the sleeping time favors development of collateral circulation.

3. PARESTHESIAS occur early or late in the course of chronic occlusive arterial diseases. Numbness, tingling, coldness, or burning sensations in any combination are of less value when present alone than when associated with other findings, because these are non-specific complaints found in peripheral neuritis, spinal cord tumors, herniated disc, anemia and psychosomatic states. In my file kept on patients I examine at the Research Clinic there are cases of every one of these conditions with no evidence of any spastic or obliterating arterial diseases. Question the patient to try to find out if coldness or burning are present only as sensations or demonstrable by touch.

4. MUSCULAR WEAKNESS is often present, but is also a finding in neurological lesions.

5. MUSCLE CRAMPS coming on in the calf or thigh at night may be due to chronic venous insufficiency alone or as a complicating factor. Night cramps accompanied by hyperflexion or hypertension of the toes are not due to arterial disease, and, hence, are unrelated to intermittent claudication. According to Moss and Herrman<sup>4</sup> nocturnal muscle cramps appear to result from action of some end product of metabolism following increased muscular activity during the day and are relieved promptly by quinine-sulphate.

## B. SIGNS

### 1. INSPECTION

An increase in the general aging process of an individual takes place more frequently in arteriosclerosis. Characteristic trophic changes include a thin, shiny, dry skin devoid of hair. Hypertrophic degeneration of nails occurs as commonly in fungus as in chronic arterial disease. Inspect between toes, and also soles for signs of trichophytosis because skin fissures are potential sources of infection or ulcers.

Postural color changes constitute valuable information and the time needed to demonstrate them is well spent. Examine your patient in good daylight if possible since a poor light or artificial light or fluorescent light may be confusing. In mild, or even moderately advanced cases, there is normal appearing skin with the limbs on a horizontal level. Red or blue cyanosis in this position means far advanced arterial insufficiency. Patches of brownish discoloration are not specific, as their presence is common in either arterial or venous insufficiency.

Red, blue, purple or black discolorations represent tissue ischemia.

Elevate the legs as near to 90° as possible asking the patient to flex and extend both feet at the ankles calling a rest period every 30 seconds to make your observations. In cases of early appearance of pallor, i.e., in less than a half minute, an absence of vascular tone is indicated meaning advanced obliterating arterial disease. Late pallor, i.e., after one and a half minutes, indicates the presence of considerable vasoconstriction, hence minimal disease with arterial spasm. Hence, information regarding prognosis is obtained right at the very start of the case work-up.

Next, assist the patient to quickly assume a sitting position with the legs hanging over the side of the bed or examining table. At the same time note the position of the second hand on your watch, so as to time the first appearance of rubor and of venous filling. In arterial spastic states these times are very fast, usually two to four seconds. Normally, five to 10 seconds are sufficient time. Patients with mild arterial insufficiency have times of 11 to 19 seconds, while those with moderate arterial insufficiency take 20 to 30 seconds, and those with serious arterial insufficiency take over 30 seconds.

After prolonged dependency the pattern and intensity of the rubor is noted. A faint pink flush over the dorsal surfaces of the feet is normal. As a rule, a patchy appearance of the rubor denotes involvement of smaller arteries, while a uniform appearance denotes involvement of larger arteries. However, such observations in no way aid in differentiating arteriosclerosis from thromboangitis.

### 2. INSPECTION AND PALPATION COMBINED

Palpate skin over the extremities using the back of the examining fingers. Warm skin is present normally but can also be present with considerable obliteration of arterial lumina. Likewise, a cool skin while characteristically present in arterial disease is commonly felt in vasomotor phenomena of autonomic nervous system imbalance. Cold cyanosis be it red, blue or purple, is indicative of considerable impairment in arterial blood flow. A warm cyanosis is present in venous thrombosis and in cellulitis. Rate of disappearance of an area blanched by digital pressure is rapid in vasospastic states and slow when circulation is poor. Disappearance of the area of pallor means reversible tissue ischemia which is impending or pre-gangrene; while failure to create a blanched out spot is one sign of irreversible tissue ischemia, which denotes the presence of actual gangrene, at least of the skin.

A cold, mottled cyanosis of the lower extremities with good arterial pulses is pathognomonic of



livedo reticularis, but associated with absent pulsations of one or more major arteries signifies arterial occlusion by chronic obliterating disease; or by embolic or thrombotic occlusion, either suddenly or slowly.

In examining the circulation of the upper extremity absence or presence of pulses can be easily ascertained for the radial and brachial arteries but normal ulnar arteries are frequently not palpable. Consequently, the Allen<sup>5</sup> test has its chief value here. It is performed by compressing the radial arteries with the examiner's thumbs after rendering the hands relatively bloodless to see if a normal flush due to reactionary rubor appears in the palm; or, if pallor persists denoting impaired blood flow through the ulnar artery. The process is repeated this time compressing the patient's ulnar arteries simultaneously and accordingly a positive or a negative "reverse Allen test" is observed.

Incomplete obliteration of arteries of the upper extremities is frequent in arteriosclerosis, but complete obliteration of lumina is infrequent; while incomplete or complete obliteration of arterial lumina occurs in 40 per cent<sup>2</sup> of patients with thromboangiitis. Since performing the Allen and Reverse Allen tests, routinely on the upper extremities of all patients suspected of having chronic obliterating peripheral arterial diseases, I have found impairment in blood flow through the radial and ulnar arteries more frequently in arteriosclerosis than noted heretofore. Allen<sup>3</sup> agreed with this observation.

### 3. PALPATION

Using the backs of the second and third fingers, determine the relative temperature of skin over symmetrical areas on the upper or lower extremities by touch. The digit or part of a limb with the cooler or colder skin has impaired circulation. Note or so mark the height of the level of cool skin for future comparison. Remember that the site of an occlusive process in a major artery is considerably higher than the height of the line representing junction of proximal warm and distal cool skin because skin is supplied by superficial circulation whose source is well above the impairment in the deep circulation.

During a lecture before the attending staff of a large hospital, only eight of 70 physicians held up their hands in response to a question as to which doctors had been taught in medical school how to palpate pulses of major arteries in the lower extremity, and those were recent graduates! The exact determination of the presence, absence or degree of impairment of the pulses in major arteries is the most important part of the examination of a patient suspected of having a peripheral vascular disease.

Since the number of cases of vascular diseases occurring in any one physician's practice is small, it behooves one to palpate these vessels frequently in patients not suspected of having chronic arterial diseases, so as to gain confidence in this technic. For the technic of how to palpate pulses of peripheral arteries, the reader is referred to standard text-books on vascular diseases, or to the author's article.<sup>6</sup> Routinely, I make a practice of palpating for pulses in both limbs simultaneously. There are two advantages, namely, comparison of intensity, volume and constancy of the pulses of both dorsalis pedis arteries at the same instant, and, likewise, by examining the other arteries in pairs, time is saved.

Absence of arterial pulsations does not necessarily indicate disease is present. Exceptions include attempts to palpate for a deep lying popliteal artery, especially in obese patients. In the presence of considerable edema difficulty is usually experienced. It is a mistake to make a diagnosis of thromboangiitis in a young man with cold feet and absent pulsations in both dorsalis pedis arteries when these are the only findings, because anomolous location of these vessels occurs in over 10 per cent of individuals. Should a patient be examined in a room with temperature below 70° F, pulsations in major arteries may be absent due to vasoconstriction.

Be on the look-out for the presence of small arterial pulses in places where none are usually palpable. For example, one frequently palpates the pulse in a small artery in the mid-dorsal area of the wrist or hand, in patients with thromboangiitis with upper extremity involvement. This finding is evidence of collateral circulation.

Patients with symptoms who do not have impaired or absent pulses are not likely to have obliterative peripheral arterial diseases. There are patients who do have adequate pulsations with mild cases of arterial insufficiency or involvement principally of arterioles. Vascular calcifications found on roentgenograms do indicate arteriosclerosis, but if all pulsations in major arteries are palpable, the obliterating form of vascular sclerosis may not be present.

### Differential Diagnosis

First differentiate chronic obliterating peripheral arterial diseases from other vascular, neurovascular, neurologic and orthopedic conditions. Livedo reticularis, Raynaud's phenomena, scleroderma and acrocyanosis have cool skin over the extremities involved but arterial pulsations are adequate. Warm cyanosis is present in erythralgia, phlebitis, lymphangitis, and cellulitis.

Venous stasis ulcers occur on the leg, most often about the malleoli or in the lower third of the limb. Arterial ulcers usually occur on the foot or toes.

Syphilitic ulcers occur characteristically in the upper portions of the legs. Ulcers on the finger tips or ears occur in Raynaud's phenomena. An ulcer occurring at a site of injury on a finger is found in tularemia.

Major or minor trauma may precipitate intense arterial spasm, leading to causalgia, to neurovascular reflex dystrophy, or to acute traumatic arterial spasm. Good pulses, normal oscillometric readings and fast circulation times differentiate these from occlusive arterial diseases. Ergot is a vasospastic drug and may affect the extremities quite similarly to arterial disease.

Neurovascular syndromes<sup>7</sup> of the shoulder girdle, include the scalenus-anticus syndrome with or without cervical rib, the hyperabduction syndrome of Irving Wright and the costoclavicular syndrome. These are all based on obliteration of pulses through the mechanism of hyperadduction or hyperabduction of the arms, or exaggerated shoulder or neck movements resulting in neurologic symptoms. Other than when the effect or mechanism is in actual operation, pulses are adequate, circulation times are normal, as well as oscillometric indices.

Patients with tumors of the meninges, lesions or injury of the spinal cord, or peripheral nerve lesions complain of paresthesias, but pathologic reflexes and abnormal sensory changes clarify their diagnosis. Orthopedic conditions like intervertebral discs and spinal deformity and disease frequently exhibit secondary arteriospasm, but the findings need not be confounded with chronic occlusive arterial diseases.

Time does not permit me this evening to detail the differential diagnosis further, or to include a discussion of sphacele (gangrene) of arterial or venous origin.

The differentiation of thromboangiitis and arteriosclerosis is much easier in patients under the age of 40 than it is in patients over the age of 60. Patients who incur thromboangiitis under 40 and who quit smoking may go into remission and not suffer relapse until 10 to 20 years later. Hence, such

patients may live long enough to acquire arteriosclerosis, also. Two patients under my care, ages 60 and 70 respectively, have tissue diagnosis of thromboangiitis obliterans. The latter is undoubtedly one of the oldest living patients with this disease. Marked asymmetry of limb involvement in the history and physical findings is usually in favor of thromboangiitis. Other findings more common in thromboangiitis are a history of superficial phlebitis, especially of the migratory type; occurrence in over 96 per cent of males according to Silbert,<sup>1</sup> and involvement of the upper extremities in 40 per cent. In arteriosclerosis, the presence of vascular sclerosis in other arteries, such as the retinal arteries or in the aorta with vascular calcifications of large or small arteries on roentgenograms; the presence of a complicating diabetes; the presence of considerable hypertension; or the presence of a high level of blood cholesterol, especially in a younger patient, help to establish the diagnosis.

#### Summary

1. Essential information to be sought for in taking histories of patients suspected of having chronic obliterating peripheral arterial diseases is analyzed.
2. The procedures to follow in examining these patients in the office or at the bedside are detailed.
3. The differential diagnosis of chronic peripheral arterial diseases from syndromes due to arteriospastic vascular diseases and from syndromes due to neurologic and orthopedic conditions is explained. The two most common forms of chronic obliterating peripheral arterial diseases were differentiated from each other.

#### Bibliography

1. Silbert, Samuel: Further Experience With Thromboangiitis in Women, *Amer. Heart J.*, 36: 757-771, November, '48.
2. Allen, E. V., Barker, N. W. and Hines, Jr., E. A.: *Peripheral Vascular Diseases*, Philadelphia, 1946, W. B. Saunders Co. P. 384.
3. Allen, Edgar V.: Personal Communication, November 4, 1948.
4. Moss, Harold K. and Herrman, Louis G.: Night Cramps in Human Extremities, *Amer. Heart J.*, 35: 403-408, March, '48.
5. Allen, E. V., Barker, N. W., and Hines, Jr., E. A.: *Peripheral Vascular Diseases*, Philadelphia, 1946, W. B. Saunders Co., P. 53, 55 and 57.
6. Morest, F. S.: Diagnostic Aspects of Peripheral Arterial Diseases, *Collected Papers of the Attending Staff of the Kansas City General Hospital*, 1947-48.
7. Wright, Irving S.: *Vascular Diseases*, Year Book Publisher, Chicago, 1948, P. 264 to 283.

## OFFICIAL PROCEEDINGS

Official Proceedings of the 91st annual meeting of the Kansas Medical Society, Wichita, Kansas, May 15-18, 1950, will be published in the June issue of the Journal.



## Examination of the Abdomen\*

### A Diagnostic Maneuver, Directional Palpation, to Determine the Site of Localized Inflammatory Disease in the Abdominal Cavity

Philip Cooper, M.D.,\*\* Alfred H. Hinshaw, M.D.\*\*\*

Wichita, Kansas

When acute intra-abdominal inflammatory disease exists, one is able in most patients, with adequate history, physical examination, and laboratory data, to arrive at a fairly satisfactory diagnosis.

There are some patients, however, who present unusual abdominal findings on physical examination. In such situations, often one has to resort to some modifications of the usual physical diagnostic maneuvers, in order to properly evaluate the pathology.

A diagnostic maneuver used by one of us (P.C.) for a number of years is here presented as a supplement to or a modification of the usual methods of physical examination of the abdomen. It is called "directional palpation." Review of the literature<sup>1, 2, 3, 4, 6, 8, 11, 12, 13, 14</sup> and personal contact with many surgeons fail to reveal any reference to it. It is possible that others may be employing this maneuver, yet in view of the absence of any definite reference to it, it is felt that it should be presented in detail.

The most important significance of the maneuver is its giving the examiner definite information in regard to the location of the major inflammatory process. This process, in all probability, would be the site of the primary disease. For example, the patient may present marked tenderness of the entire right side of the abdomen and ordinary methods of palpation may not determine accurately whether the major pathology is in the upper or lower quadrant. More specifically, it may be very difficult to differentiate between an acute cholecystitis or a high, acutely inflamed retrocecal appendix. In this situation, directional palpation will probably show more tenderness in a cephalad direction in acute cholecystitis and in a caudad direction in acute appendicitis. Occasionally with an appendix high under the liver, the findings may not be certain, yet in general, enough information will be obtained by this test to properly evaluate most such situations. If the inflammatory process has resulted in a generalized peritonitis with a board-like abdomen, directional palpation again may not be certain. In

many such patients the maneuver, however, has yielded helpful information.

On our service we are increasingly giving more weight to information obtained by this maneuver in the evaluation of intra-abdominal inflammatory disease. In general, when the clinical findings have justified operative treatment, the pathology found at operation has substantiated the preoperative interpretation of the findings obtained by this maneuver. In our experience the maneuver has quantitative as well as a qualitative value, and in the co-operative intelligent patient, the determination as to whether the response is equivocal or unequivocal is of significance.

This maneuver is accomplished as follows: with the patient supine, the ends of the fingers of the examining hand are placed nearly perpendicularly against the abdominal wall with the palmar aspect of the fingers directed as desired (Figure 1). This

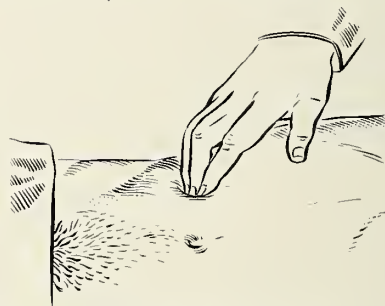


Figure 1. Beginning the maneuver. In this instance the maneuver is begun with the fingers pointing caudad.

may be near the umbilicus, or any part of the abdomen or flank. Gentle, then increased pressure is gradually applied in one direction (Figures 2 and 3). The fingers are then allowed to return to their original position, the hand is pivoted 180° on the middle finger (Figure 4), and pressure is applied in the opposite direction (Figures 5 and 6). The



Figure 2. Showing increased pressure in a caudad direction.

\*Published with permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the author.

\*\*Chief of Surgical Service, Veterans Administration Hospital, Wichita, Kansas.

\*\*\*Resident in Surgery, Veterans Administration Hospital, Wichita, Kansas.

amount of pressure exerted in both directions should be identical. The optimum and desirable degree of pressure in each case will obviously vary with different patients, and with the suspected pathology.

It is most important that the maneuver be ac-

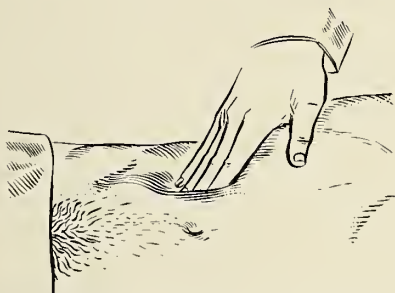


Figure 3. Examining hand shown at the completion of the first half of the maneuver.

complished as described, for one is interested in the degree of tenderness in each direction. The patient is asked to determine in which direction he



Figure 4. Showing the hand pivoted 180 degrees on the middle finger ready to begin the second part of the maneuver.

experienced the most tenderness. Usually the patient can immediately give a definite answer. He states that it hurts more "going up" or "going down," or "going to the right" or "going to the left," depend-



Figure 5. Increased pressure, this time in a cephalad direction. Except for direction this stage is similar to that shown in Figure 2.

ing on the manner in which the maneuver is being employed. If two discrete areas of inflammation are suspected in the same patient, it is of value to complete this maneuver at two distinct points as shown in the case report which follows.

#### Case Report

R.W.C., a white, male warehouseman, age 34,

was admitted to the hospital on September 29, 1948, complaining of pain in the right side of the abdomen. This had begun approximately 40 hours before admission, was at first intermittent and sharp in character, then had increased gradually in severity and had reached a maximum intensity about 24 hours before admission. At the time of admission the pain involved the entire right side, and was more severe in the right upper quadrant of the abdomen. There had been some anorexia, nausea, and vomiting on two occasions, but no change in bowel habits, no chills, fever, or jaundice, or symptoms referable to the genito-urinary tract. The remainder of the past history and the family history were non-contributory.

Examination on admission revealed an acutely ill patient, temperature 100° F., pulse 100, and blood



Figure 6. Maneuver completed. All factors other than direction should be equal to those shown in Figure 3.

pressure 115/65. There were no other positive physical findings other than diminished breath sounds at the base of the right lung, posteriorly, and tenderness and rigidity along the entire right side of the abdomen. The special diagnostic maneuver performed in the right upper quadrant of the abdomen revealed more tenderness with fingers directed cephalad; and when performed in the right lower quadrant, more tenderness with the fingers directed caudad. Rectal examination revealed no abnormal findings.

Laboratory findings on admission were Rbc. 4.9 M., Hb. 14.55 gm., Wbc. 20,500; differential—neutrophils 82 per cent, lymphocytes 18 per cent; sedimentation rate 13; urine—specific gravity 1.030, albumen—trace, sugar—negative, microscopic—occasional Rbc. and Wbc. X-ray of the chest and flat plate of the abdomen revealed no significant abnormalities.

Preoperative diagnosis was empyema of the gallbladder or acute retrocecal appendicitis. The possibility of two inflammatory lesions in the abdominal cavity was seriously considered.

*Operative note:* On September 29, 1948, under pontocaine spinal anesthesia, a five-inch lower right rectus incision was made. The appendix was found acutely inflamed and lying over the pelvic brim. The distal third of the appendix was gangrenous. The re-



mainder of the appendix was considerably thickened, indurated and congested. There was no evidence of any generalized peritonitis. The appendix was removed in the usual fashion. At the time it was felt that the appendicitis alone could not have produced all the physical findings, especially in view of the results of the special diagnostic maneuver. Further exploration revealed that the gallbladder was also the site of an acute inflammatory process. The incision was extended cephalad. The gallbladder was markedly distended, edematous, and brownish black in color. A calculus  $2\frac{1}{2}$  by  $1\frac{1}{2}$  cm. was palpated in the gallbladder near the cystic duct. A cholecystectomy was performed in a retrograde fashion. The wound was closed in the usual manner in layers with interrupted silk sutures. A Penrose drain was placed in Morrison's pouch and brought out through a stab wound. The patient left the operating room in excellent condition.

Convalescence was uneventful. The patient was ambulant on the first postoperative day and was discharged asymptomatic from the hospital on the 12th postoperative day. The pathology diagnoses were acute and chronic cholecystitis, gangrene of the gallbladder, cholelithiasis; acute necrotizing appendicitis.

#### Discussion

This diagnostic maneuver has been used on the surgical service on all patients who presented abdominal complaints. This maneuver has been of considerable value as an adjunct to the usual methods of physical examination of the abdomen. The maneuver is of particular value when the usual methods of physical examination of the abdomen leave some doubt as to the existence of inflammatory disease in the abdomen requiring surgery, or when there is some question as to the exact location of the abdominal pathology. The maneuver is of value only where the abdominal pathology is of an inflammatory nature, or where an inflammatory process develops secondary to other disease.

In the case presented, the value of the test in

determining the existence of two distinct inflammatory lesions is well known. In that patient it was determined preoperatively that the special diagnostic maneuver definitely raised the possibility of two distinct acute inflammatory processes in the abdominal cavity. When the appendix was found within the pelvis, it was felt that the physical findings of the abdominal examination with particular reference to the special diagnostic maneuver were not adequately explained by the appendiceal pathology alone, and the upper abdomen was explored. Concomitant inflammatory disease of the gallbladder and appendix has been reported by others.<sup>5, 7, 9, 10</sup>

#### Summary

A special diagnostic maneuver to determine the site of an inflammatory lesion in abdominal cavity is described.

A case report demonstrating its value is presented and discussed.

This special diagnostic maneuver is presented as a supplement to already accepted physical methods of examination of the abdomen.

#### References

1. Babcock, W. W.: Principles and Practice of Surgery. Lea and Febiger 1944. pp. 1021-1027.
2. Bailey, H.: Demonstrations of Physical Signs in Clinical Surgery. The Williams and Wilkins Co. (Tenth Edition) 1946. pp. 245-269.
3. Christopher, F.: A Textbook of Surgery. W. B. Saunders Company. (Fourth Edition) 1945. pp. 1022-1025.
4. Cope, Z.: The Early Diagnosis of The Acute Abdomen. Oxford University Press. (Ninth Edition) 1946. pp. 39-49, 74-94, 106-111, 232-234.
5. Draper, L. R.: Correlation Between Appendicitis and Gall Bladder Disease. Illinois M. J., 69: 363-366. 1936.
6. Levitas, M. S.: New Diagnostic Points; Clinico-Anatomic Consideration of Bilateral Hyperalgesia. Arch. Surgery, 44: 918-932. 1942.
7. Mayo, W. J.: Acute Perforations of Abdominal Viscera. Surg. Gynec. and Obst., 28: 28-34. 1919.
8. Meyer, H. W.: Differential Diagnosis in Surgical Conditions. Am. J. Surgery, 72: 773-785. 1946.
9. Miller, G. I.: Primary Acute Cholecystitis and Appendicitis Occurring During the Puerperium. Med. J. and Record, 137: 275-276. 1933.
10. Rivers, A. B., and Hartman, H. R.: Abdominal Exploration in Cases Diagnosed Cholecystitis or Cholelithiasis before Operation. Arch. Internal Med., 45: 523-534. 1930.
11. Sloan, H. G.: Lewis' Practice of Surgery. W. F. Prior Company, Inc. 1943. Vol. VII, Ch. 3. pp. 11-20.
12. Spivack, J. L.: Urgent Surgery. Charles C. Thomas, 1946. Vol. 1. pp. 123, 467-469, 472-477.
13. Synnott, M. J.: The Examination of the Abdomen. Med. J. and Record, 134: 435-440. 1931.
14. Thorek, M.: Surgical Errors and Safeguards, J. B. Lippincott Company. (Fourth Edition) 1943. pp. 503-523.

## A.M.A. MEETING

Annual Session, American Medical Association

San Francisco, California

June 26-30, 1950

# Effect of Aureomycin in Herpes Simplex Virus Infection\*

Samuel Zelman, M.D., and Robert H. O'Neil, M.D.\*\*

Topeka, Kansas

Braley and Sanders<sup>1</sup> used aureomycin in the form of local application of 0.5 per cent borated solution in the treatment of four cases of dendritic ulcers of the cornea. Dramatic recovery occurred in two of these cases within 24 hours, and a third case was improved. Dendritic keratitis is a specific lesion, generally accepted by ophthalmologists to be due to herpes simplex virus infection; the virus can be demonstrated in the lesions by appropriate methods.<sup>2</sup> It is often associated with herpetic lesions of the skin and mucous membranes of the mouth.

Stimulated by the experience of Braley and Sanders, we were led to try the effect of aureomycin in an unusually persistent case of herpetic stomatitis, with resultant dramatic remission.

## Case Report

A 30-year-old white male was admitted to the hospital complaining of the discomfort and pain of buccal mucosal ulcerations. These appeared in crops of a few at a time, lasting two weeks each, but lesions had been present continuously for the past nine months, and for four years the patient had not been free of lesions for as much as one month at a time. Aphthous ulcerations of the buccal mucosa were the only physical finding, and routine laboratory studies were within normal limits.

On the fourth hospital day, a new crop of lesions appeared. Five large (five mm.) ulcers and 10 pin-head size ulcers were noted. At this time, a five-day course of aureomycin was instituted, with dosage of 500 mg. every six hours. Within 48 hours, most of the small ulcers had disappeared, and the large ones were diminished considerably in size; all pain and discomfort had disappeared. At the end of five days of aureomycin therapy, all but one ulcer had completely healed, the last one persisting two more days. The patient was enthusiastically grateful.

Five weeks later, according to a communication from the patient, aphthous ulcers reappeared.

## Clinical Study

Twelve cases of human herpes simplex virus infection, in the form of herpes labialis and aphthous ulcerations, were treated with aureomycin in dosage of one gram daily in divided doses, for two to four

days. Lacking control studies, it is impossible to evaluate results in these cases. Some seemed to recover with unusual rapidity, pain disappearing within 12 hours and vesicles within 48 hours. These patients, all subject to recurrent herpetic lesions, were generally pleased with what they considered an abbreviated clinical course. We did not pursue this study further, because of the difficulty in designing a reliable method of controlled observation. These patients were not protected against later recurrences of herpetic lesions.

## Animal Inoculation Study

Rabbits were inoculated upon the scarified cornea with fluid from herpetic vesicles of patients. Serial transmission was used for inoculation of some of the rabbits. The herpetic viral nature of the ophthalmic lesions obtained was verified by smears of exudate showing characteristic acidophilic nuclear inclusion bodies and ballooning degeneration of the nuclei, in epithelial and mononuclear cells. One rabbit developed spontaneous encephalitis as a metastatic complication of ophthalmitis; similar nuclear changes were found in the autopsied brain.

Treatment with aureomycin was begun as soon as keratoconjunctivitis became visibly evident and was verified by smears characteristic of herpetic infection. Six rabbits were treated with daily intraperitoneal injections of aureomycin, 25 mg. per Kg. continued for five days. Two additional rabbits were treated with twice daily ophthalmic ointment of aureomycin, of undetermined but generous dosage. Each treated rabbit was paired with an untreated control animal.

No effect could be ascertained upon the ophthalmic herpetic lesions from treatment with aureomycin intraperitoneally or locally, when compared with the control animals.

## Discussion

With the possible exception of sulfonamides in lymphogranuloma inguinale and trachoma, no antibiotic previous to aureomycin has proven effective against virus infections. Aureomycin has been shown to be effective against viruses of the psittacosis-lymphogranuloma group,<sup>3</sup> and in virus pneumonias.<sup>4</sup> Inclusion conjunctivitis and follicular conjunctivitis, diseases of probable virus origin, have also responded to aureomycin.<sup>1</sup> A recent report suggests its effectiveness in herpes zoster.<sup>5</sup>

Herpetic stomatitis, like dendritic keratitis, is caused by the herpes simplex virus.<sup>6</sup> The virus is believed to exist in the carrier state as an intracellu-

\*Sponsored by the Veterans Administration, and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

\*\*Resident in Internal Medicine.

From the Medical Service, Winter Veterans Administration Hospital.

\*\*\*The authors gratefully acknowledge the technical assistance of Miss Dorothea M. McCain, M.T. (A.S.C.P.)



lar parasite, with activation at times of stress, producing a clinical picture of recurrent herpes. Occasionally, as in our case, the lesions may be constantly present for long periods, characterized by recurring crops of vesicles. Common sites are the lips, face, mouth, genitalia, conjunctiva and cornea. On mucosal surfaces, the vesicles break early, leaving shallow erythematous aphthous ulcers. Disability is due to the associated pain and swelling. The virus is capable of infecting the central nervous system.<sup>7</sup>

No specific treatment has been available heretofore, but reports are accumulating that aureomycin may specifically influence this virus infection in the human patient. The report of Braley and Sanders<sup>1</sup> has been mentioned. Kalz, Prichard and Zurkis<sup>8</sup> reported cases of herpes simplex which were treated with a single application of aureomycin in a water-soluble methyl cellulose film which formed an adherent coating. The vesicles dried within 24 hours and complete healing was achieved in 48 to 72 hours. Nichamin<sup>9</sup> reported the favorable response of four cases of herpetic and aphthous lesions to oral aureomycin. Finland et al<sup>5</sup> observed several cases in which the lesions of herpes labialis healed fairly rapidly under systemic treatment with aureomycin, but were uncertain whether this was an effect on secondary infections. Four other patients were observed in whom herpes labialis appeared during aureomycin treatment of acute bacterial infections, possibly indicating strain differences in the susceptibility of the herpes virus to aureomycin. In none of these studies was there any attempt to demonstrate the specific virus. It is to be hoped that this will be done in future studies, and the effect of aureomycin on human herpes simplex virus infec-

tions more definitely established. Maxwell Finland, in a personal communication, reports that aureomycin in experimental animals has had no effect on herpes virus infections, confirming our own experience.

#### Summary

1. An unusually persistent case of herpetic (aphthous) stomatitis is reported, with prompt remission following oral aureomycin therapy. Later relapse was not prevented.

2. Further clinical studies suggested an accelerating effect of aureomycin on the evolution of simple herpetic lesions, but were indecisive due to lack of proper control conditions.

3. Inoculation experiments failed to show a response to aureomycin in herpes simplex infection of the rabbit.

#### Bibliography

1. Braley, A. E. and Sanders, M.: Aureomycin in ocular infections, J.A.M.A. 138: 426, (Oct. 9) 1948.
2. Gruter, W.: Experimentelle und klinische Untersuchungen über den sog. Herpes Corneae, Klin. Monatsbl. Augenheilk. 65: 398, 1920.
3. (a) Wong, S. C. and Cox, H. R.: Action of aureomycin against experimental rickettsial and viral infections, in Conference on Aureomycin a new antibiotic, New York Academy of Science, Section on Biology, July 21, 1948. (b) Wright, L. T., Sanders, M., Logan, M. A., Prigot, A. and Hill, L. M.: Aureomycin: a new antibiotic with virucidal properties. I. A preliminary report on successful treatment in twenty-five cases of lymphogranuloma venereum, J.A.M.A. 138: 408, (Oct. 9) 1948.
4. Schoenbach, E. B. and Bryer, M. S.: Treatment of primary atypical nonbacterial pneumonia with aureomycin, J.A.M.A. 139: 275, (Jan. 29) 1949.
5. Finland, M., Finnerty, E. F., Jr., Collins, H. S., Baird, J. W., Gocke, T. M., and Kass, E. H.: Aureomycin treatment of herpes zoster N.E.J.M. 241: 1037, Dec. 29, 1949.
6. Scott, T. F. M. and Steigman, A. J.: Acute infectious gingivostomatitis. Etiology, epidemiology and clinical picture of a common disorder caused by the virus of herpes simplex, J.A.M.A. 117: 999, 1941.
7. Goodpasture, E. W.: Herpetic infection with especial reference to involvement of the nervous system, Medicine, 8: 223, 1929.
8. Kalz, F., Prichard, H., and Zurkis, S. Z.: Aureomycin film in topical treatment of cutaneous virus eruptions, Canad. M.A.J. 61: 171, 1949.
9. Nichamin, S. J.: Letter to the editor, J.A.M.A. 141: 1272, Dec. 24, 1949.

## TELEPHONE NUMBER CHANGES

The telephone number of the Kansas Medical Society office in Topeka has been changed to 3-9617. The new number provides rotary service for two telephones, giving better service on incoming calls. Remember the number—3-9617.

# Tuberculosis in the Child

Jay L. Sitterley, M.D.\*

Topeka, Kansas

Insofar as clinical reinfection disease is preceded by the so-called benign primary infection, it should never be minimized to the parents of the patient, and most assuredly not in the mind of the doctor. A tuberculous child denotes but one thing—a contagious case is nearby. It may be the child's parents, relatives, or neighbors. An unexplained fever, elevated sedimentation rate, anorexia, and weight loss in a tuberculin-positive child, should always be regarded as an active tuberculosis until proven otherwise. This is particularly true if there is a history of a negative reaction in the near past.

R. V. Platou, in his address on "The Tuberculous Child" in the 1948 Southwest Clinical Conference, reported a 6.1 per cent mortality in his series of patients up to the age of 12 years. He points out that its benign prognosis is unwarranted, and a tragic error without a careful study. He further states that the child should be carefully watched for at least three years when evidence of an active primary disease is found. J. Arthur Myers is convinced these children must be closely observed, that the source of infection should be found and isolated from the child.

Primary tuberculosis is of importance in all ages and is extremely so in children under three years of age and during adolescence. Meningeal and miliary tuberculosis in infancy, though not excessive, is sufficiently prevalent to be of concern. Female adolescent patients should command all the diagnostic and observational diligence possible. No more pathetic episode can be imagined than a young woman embarking into matrimony and motherhood with a potentially dangerous active primary tuberculosis. The incident strain all too often results in an exacerbation of the disease.

Mass x-ray surveys of children are of no practical value because: first, they usually do not pick up the source of the infection; second, the x-ray does not differentiate between tuberculin reactors and non-reactors; and third, the number with pathology found is often too small to be economically feasible.

Of the first reason—it is not at all uncommon that the parent, grandparent, or other contact is not found during such surveys; hence, the contagious contact persists. Concerning the second reason—pneumonic infiltrates or calcifications are not always tuberculous; hence, the x-ray is not diagnostic. Tuberculin-testing at yearly intervals, and clinical observations are of definitely more value in diagnosis and treatment. The x-ray film, though an excellent tool, should never be the only one.

Of the last reason—tuberculin reactors in Kansas generally run between two per cent and three per cent up to the age of 12 inclusive. How much better it would be to tuberculin test at intervals and then to concentrate on the reactors, making certain at the time to uncover the contagious source. A child or adult, never initially infected, will not die of tuberculosis. Thus the eradication of tuberculosis can be greatly assisted by intelligent observation of all tuberculin reactors and the prevention of the primary infection in all, especially children.

In conclusion: primary tuberculosis in children should never be given a benign prognosis. These patients should be closely observed and the contact should be segregated. Mass x-ray surveys are not felt to be efficient in children; instead, prevention of, and the close observation of the active primaries will be of greater value in the eventual eradication of tuberculosis.

## Bibliography

1. Platou, R. V.: The Tuberculous Child, Kansas City Medical Journal, January, February, 1949.

\*Kansas Tuberculosis and Health Association.

*Official Proceedings of the 91st annual session of the Kansas Medical Society will be published in the June issue of the Journal.*



## PRESIDENT'S PAGE

Dear Doctor:

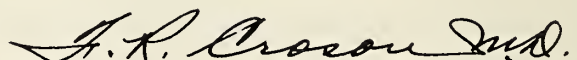
We have seen the Kansas Medical Society grow from a mere skeletal organization with a few ineffective committees to one which is the envy of and holds the respect of all organized medicine throughout the United States. This has come about through careful planning and is due to four factors: first, the loyal and sincere cooperation of the entire membership; second, the very able leadership it has enjoyed in the past two decades; third, the excellent and outstanding work of all the various committees; and fourth, the splendid central office together with the loyal, untiring and efficient help we have received from its personnel.

In assuming the presidency of such an outstanding organization, one is conscious of the honor which the office bestows, but far more conscious of the profound obligation he has to help maintain and advance the organization; to work in harmony with all its officers, committees and members; to carefully analyze all conditions and circumstances before arriving at what he hopes is a logical conclusion; and lastly, to bear in mind always that the Kansas Medical Society exists primarily to promote the health and welfare of the people of Kansas.

During the coming year I plan to seek advice from many of you. I want and welcome your criticisms and suggestions. I am at your service and I assure you that I will endeavor to discharge the many duties of the office to the credit of the organization and to the best of my ability. We are all proud of the Kansas Medical Society and I hope, with your cooperation during the coming year, we will be able to progress as rapidly as we have in the past.

I thank you for the honor and again I solicit your help.

Sincerely yours,

A handwritten signature in cursive script, reading "A. R. Crocon M.D.", written in dark ink.

President.

## EDITORIAL COMMENT

### J. F. Hassig, M.D.—1875-1950

Dr. Hassig is dead. His life ended a half century crowded to overflowing with adventure in his professional field. He had attained a full measure of achievement. Little enough was his reward in terms of mortal reckoning, but Dr. Hassig preferred to evaluate his worth by other standards, the standards that endure. He was a great man and with his passing medicine mourns the loss of a hero, benefactor, friend.

Every honor the profession had in its power to bestow was his, and each he diverted into a new opportunity for service. His selfless devotion to the ideals of medicine is written into the history of his term as president of the Kansas Medical Society. As delegate to the American Medical Association he was an inspiration on a national plane. And his 30 years service on the Kansas State Board of Medical Registration and Examination, most of the time

as secretary, speaks with an eloquence that needs no words. The vacant place he leaves will remain a long while empty.

Not gone, however, are the ideals he lived by and the example he provided. His integrity towered over surrounding falsehood whether in the presence of the great or small, and to each he extended the full warmth of his unbounded kindliness.

On few has this quality of greatness rested so lightly for Dr. Hassig disdained to mention it, if indeed he even recognized its presence. No man ever strove more valiently to live in truth before all men. No man ever asked for less.

Dr. Hassig's epitaph is written in his life. It is recorded in the evolution of the practice of medicine providing the people of this state with protection they could not have received without a vision such as his. This epitaph is buried deep in the hearts of those who knew him. It varies moment by moment as memories of his life pass in review. It is reflected to the world in the lives of those he helped.

His epitaph is the composite picture of the warmth of his personality, his abiding faith in the worth of man, the devastating sense of humor he

possessed, his engrossing interest in everything that went on about him, his sincerity of purpose expressed in the ideals by which he lived and by his charity. And perhaps the greatest of these all—is his charity.

---

### Mercy Killings

The Council of the Kansas Medical Society, at a meeting held March 5, passed a resolution on the subject of mercy killings. The resolution was subsequently released to the press and radio stations in Kansas and received wide publicity. The text is as follows:

"The physician upon completing his training promises to uphold the ideals of the ancient oath of Hippocrates by saying, '... I will give no deadly medicine to anyone if asked, nor suggest any such counsel...'

"He is dedicated to the preservation of life—he has neither professional, nor legal nor moral right to willfully cause the death of any person.

"The Council of the Kansas Medical Society reaffirms the position of the medical profession to serve humanity in the prevention and cure of disease, in the prolongation of life and without qualification condemns the practice of mercy killings."

---

### Grievance Committees

It is the belief of some that a more suitable term could be used, but since the American Medical Association has defined them as grievance committees the term is used here. A grievance committee represents a resource made available by the medical profession whereby the public may obtain a hearing outside the courts for injustices or inequities believed to be suffered at the hands of the medical profession. The actual make-up of such a committee leaves room for considerable variability.

The Council of the Kansas Medical Society strongly urges the establishment of such services within each county medical society in the belief that most complaints can be best adjusted at a local level. Wherever this becomes impossible on an individual basis, the Council offers its assistance. A number of component societies already have active grievance committees. By way of example, three might be cited.

In Sedgwick County, with a full time executive secretary, it is the secretary who receives the complaint. He attempts to adjust the problem with the individual and, where circumstances require, arranges a conference between the patient and the physician. In the very rare instances where the first





two procedures do not completely satisfy the patient, a local committee will study the case.

A second procedure is typified by the work of the Atchison County Medical Society in which a committee appointed from the membership performs this service. The public is invited to bring misunderstandings to its attention and together the committee works out an adequate solution.

The third example comes from Wyandotte County where an experiment is now being tried. This grievance committee consists of four members of the Society and three laymen from the community. The laymen are public spirited citizens in whom the people have confidence. They assist in the establishment of policies and in interpreting these policies to the public. Wherever circumstances indicate that the physician has been at fault, it is the medical part of the committee alone that takes up the problem.

Much can be said concerning the need for committees of this type. The public relations value is obvious because it will give the public a renewed confidence in the profession. There has existed a growing belief that the patient had no recourse toward adjusting fees or correcting any situation believed by the patient to be wrong except through the courts. The vast majority of the situations brought before a grievance committee are never planned to be taken to court but represent criticisms and complaints that the patient was unable to correct.

A grievance committee, to be successful, must be entered into sincerely. The individual physician must respect the work of this committee and be willing to cooperate with its efforts. There will at first be some nuisance complaints, but where such committees have been in operation for a time it is found that these drop off sharply after the first few weeks. From then on it will be found that 90 per cent of the grievances will be only a misunderstanding on the part of the patient. These are satisfactorily adjusted when an explanation is given. The 10 per cent represent grievances which will need adjustment on the part of the profession.

The majority of these consist of the cost of services rendered and the patient's inability to find a physician who will make home calls. The county society will be of great aid to its grievance committee if basic principles with reference to those two problems will be agreed upon by the entire membership before public announcement of the existence of a grievance committee is made.

---

### Directory of Physicians

The first A.M.A. directory of physicians since 1942 will be published on June 1 and is for sale

through the Chicago office. This, as previous directories, gives the name, year of birth, medical school, year of graduation, specialty, and address of all physicians in the United States, its possessions, and Canada.

The new directory is the largest ever published, listing a total of 219,678 physicians, an increase of about 25,000 over the previous volume. There are 47,399 physicians listed for the first time, which presumably means that this number has entered practice in the United States either through graduation or immigration since 1942.

The new directory indicates that the United States now has one doctor for every 750 persons and gives the United States the best figure of any nation on earth with reference to availability of medical care with the exception of Palestine, where a temporarily high ratio exists because of an influx of refugee doctors. Great Britain stands next to the United States with one doctor for 870 persons. Other countries in order are Iceland, 890; Denmark, 950; Canada and New Zealand, 970. The poorest nation, China, has one doctor for 25,000 population.

According to the news release recently issued by the A.M.A. under Dr. Lull's signature, the United States now has a higher ratio of physicians to population than at any other time in its history. This is attributed to the fact that most schools, either through acceleration or expansion, or both, are graduating more students than ever before. There are in the United States today approximately 7,000 freshman medical students, as compared to 6,000 freshmen 10 years ago. This report, therefore, seems to adequately refute the long standing cry of the Federal Security Administration that there exists in the United States a shortage of physicians.

---

### Error in Dosage

An erroneous dosage was published in the March issue of the Journal in the section headed, "Case Report from the University of Kansas Medical Center." In describing the hospital course of a patient (Page 144) it was stated, "Therapy consisted of complete bed rest, modified ulcer regimen, dihydrostreptomycin, penicillin 10,000 units every three hours terminally, and cardiovascular management including digitalization, aminophyllin and mercurhydriin." The number of units of penicillin should have been 100,000 every three hours.

---

### Heart Research Grant to Kansas

The University of Kansas, Lawrence, has received a grant of \$7,670 from the National Heart Institute, Bethesda, Maryland, for a theoretical and experimental study of the physical basis of circulation.

---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the ninth of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### Communism's Objectives

Lenin is supposed to have said that socialized medicine is the keystone of the Communistic arch. It is realized of course that not everyone who sponsors the adoption of socialized medicine in the United States also favors Communism. Regardless of personal beliefs, however, the general advance of Communism is tremendously benefitted in any country that adopts a program of tax supported medical care.

It represents the loss of one more liberty and strengthens the control of the central government over the lives of its people. It takes from the individual his right of free enterprise and proffers security at the cost of his freedom.

Because of its close connection a brief comment on Communism was thought to be appropriate in this series on socialized medicine. The reader may be interested in considering for a moment how near this nation stands on the brink of Communism by reflecting on the 10 points they advocate. These may be found in the Communist Manifesto published by Kark Marx and Frederick Engels in 1848. They are broad principles representing the major objectives of the Communist platform. The authors state that conditions will vary in individual nations but that once these 10 objectives have been attained, Communism is ready to take over.

The quotation of the 10 points below is taken from a clipping prepared by the Foundation for Economic Education, Inc., Irvington-on-Hudson, New York, as published in the Communist Manifesto, New York Labor News Company, 1948, pages 32, 33, 34.

1. Abolition of property in land and application of all rents of land to public purposes.
2. A heavy progressive or graduated income tax.
3. Abolition of all right of inheritance.
4. Confiscation of the property of all emigrants and rebels.
5. Centralization of credit in the hands of the State, by means of a national bank with State capital and an exclusive monopoly.
6. Centralization of the means of communication and transport in the hands of the State.

7. Extension of factories and instruments of production owned by the State; the bringing into cultivation of waste lands, and the improvement of the soil generally in accordance with a common plan.

8. Equal liability of all to labor. Establishment of industrial armies, especially for agriculture.

9. Combination of agriculture with manufacturing industries: gradual abolition of the distinction between town and country, by a more equable distribution of the population over the country.

10. Free education for all children in public schools. Abolition of children's factory labor in its present form. Combination of education with industrial production, etc.

---

### Course in Cytologic Diagnosis of Cancer

A course in exfoliative cytology for the diagnosis of cancer by the smear technique will be offered at the University of Colorado School of Medicine for pathologists and qualified physicians. The course will meet daily for two weeks, July 24 through August 5. Material from the different systems of the body will be available for study with correlation of clinical, x-ray, and pathologic findings. Members of the staff of the medical school and associated hospitals will cooperate in conducting the course.

Physicians interested in enrolling are requested to write Walter T. Wikle, M.D., Director of Laboratory of Exfoliative Cytology, University of Colorado School of Medicine, 4200 East Ninth Avenue, Denver 7, Colorado. Tuition for the course is \$100.

---

### Editor Chosen for "GP"

Dr. Walter Alvarez, senior consultant in the Division of Medicine at the Mayo Clinic and widely known author and medical lecturer, has been appointed medical editor of "GP," the new publication of the American Academy of General Practice. He succeeds Dr. F. Kenneth Albrecht, who served as medical editor during the time the journal was being planned and who died in March, a month before the first issue was printed.

Dr. Alvarez is one of the nation's best known physicians. He has been associated with the Mayo Clinic since 1926, and since 1934 has been professor of medicine of the Mayo Foundation of the University of Minnesota. Having reached the age of retirement at the Mayo Foundation, he is free to assume his new editorial duties.

The journal is published by the Academy's headquarters office in Kansas City, Missouri. The first issue, published in April, was mailed to the Academy's 12,000 members and subscribers and found ready acceptance in the field of medical publications.



---

## BLUE SHIELD

---

### The Year Ahead

As with the Kansas Medical Society, the Blue Shield "new year" begins immediately following the annual meeting of the Society in May. The Blue Shield board of directors meets just prior to the annual meeting on May 14, at which time replacements to the board will be selected for those members whose terms expire this year. The annual meeting of the board will center around a full scale discussion of Blue Shield. Shown below is a part of the agenda devoted to the general question, "How is Blue Shield Working?" The participants listed will speak on the question from various points of view.

For The Members.....

.....Chairman, State Members Committee

For The Blue Shield Relations Committee.....

.....Dr. L. W. Reynolds

For The Review Committee.....Dr. H. S. Blake

A physician who does general practice 34 miles from a hospital.....Dr. M. F. Frederick

A physician who specializes in internal medicine.....Dr. Dwight Lawson

A surgical specialist.....Dr. A. L. Ashmore

A non-participating physician.....Dr. Lloyd Hatton

The April issue of the Journal carried a comprehensive statement of the achievements of the past year as reported by Dr. Conrad M. Barnes, president of Blue Shield. Here we take a look at the year ahead and outline briefly some of the jobs which seem to us to be important if our program is to move forward.

In the realm of physician relations it seems most important that the Blue Shield Relations Committee be made an official committee of the Kansas Medical Society. It should be recalled that the present Blue Shield Relations Committee is a state-wide organization appointed by the councilors of the Society. This committee has functioned as an informal advisory group. It is expected that a resolution will be introduced in the meeting of the House of Delegates in Wichita to the effect that the Blue Shield Relations Committee be given official status. Also in this meeting a brief report will be presented by Dr. L. W. Reynolds, chairman of the Blue Shield Relations Committee.

During the past year the statewide Blue Shield Relations Committee has extended its efforts in physician relations by establishing district committees. Meetings have already been held with the district committees in eight of the twelve councilor districts. Thus the second phase of the program,

namely, the discussion of Blue Shield at the district level, has been completed in areas in which over 80 per cent of the participating physicians of Blue Shield reside. In several of these districts, meetings have been held with county medical societies for a full scale discussion of Blue Shield. This is considered the third step in the physician relations program. A much more aggressive schedule must be followed next year in the work with county societies.

It is the aim of the Blue Shield Relations Committee that a two-way street of communications be established between the Blue Shield board of directors and the medical profession throughout the state. The problems in working out a prepayment program for medical care are involved directly with the understanding of the physicians who make this service possible. Therefore, it stands to reason that frequent communications between the doctors and the program directors are absolutely essential.

In connection with Blue Shield payments (no longer referred to as fees) a great amount of work needs to be done. Representatives of the Blue Shield board have already suggested to the Kansas Medical Society that consideration be given to the appointment of a general fee committee representing all of the specialties for the purpose of establishing relative values for the different medical services and operative procedures. Once such a committee had done its work in setting up these relative values, the Blue Shield board and the Blue Shield Relations Committee could arrive at a much sounder basis for Blue Shield payments in relation to the schedule established for their guidance. Therefore, work in this connection is a very important phase of the program ahead.

In the field of public relations, the medical profession should be even more closely identified in the public mind as the sponsor of Blue Shield. Doctor Barnes, in the April issue, stressed the changing attitude of the American Medical Association which he feels has paved the way for more definite recognition of Blue Shield by state medical societies. It seems to us that public identification of Blue Shield with its medical profession sponsorship should be a goal for the year ahead.

In our enrollment operation we look forward to increasing support by local medical societies and individual physicians, medical society auxiliaries and medical assistants. The Blue Shield staff does not expect participation in the actual enrollment on the part of physicians. However, in those areas where physicians have closely identified themselves with the enrollment activities through advertising and open sponsorship, enrollment results have been greatly improved.

In connection with the medical assistants we look forward to a year of increasing activity and participation in their regularly scheduled programs. It is the plan that Blue Shield help in the organization of medical assistants' groups in all those areas where such groups are not actively formed.

The essence of the activity outlined above seems to us to be one of communications. Let the communications be open and we have nothing to fear for the results.

---

## COUNTY SOCIETIES

---

A dinner meeting of the Lyon County Medical Society was held March 7 at Newman Hospital, Emporia. Dr. Charles Rombold, Wichita orthopedist, spoke on "Low Back Pain."

\* \* \*

A symposium on backache provided the program for the April 4 meeting of the Sedgwick County Society. Dr. E. W. Crow served as moderator with Dr. A. H. Bacon, Dr. H. S. Bowman, Dr. J. G. Kendrick and Dr. J. W. Warren taking part.

\* \* \*

The annual meeting of the Pawnee County Society was held March 2. Dr. O. R. Cram, Larned, was named president; Dr. H. L. Patterson, Larned, secretary-treasurer; and Dr. S. T. Coughlin, Larned, delegate to the state meeting.

\* \* \*

Members of the Geary County Society entertained the Golden Belt Medical Society at the Country Club at Junction City April 13. Dr. J. B. Eskridge, Jr., of the University of Oklahoma School of Medicine, spoke on "Management of Common Obstetrical Problems," and Dr. T. T. Myers, of the Mayo Clinic, discussed "Medical and Surgical Treatment of the Stasis Conditions of the Lower Extremity."

\* \* \*

The Wilson County Society and Auxiliary met March 15 at Neodesha. After the dinner meeting, the groups separated for business sessions. The Society voted approval of the Red Cross blood program.

\* \* \*

A sound-color film, "Malnutrition in the Hospital Patient," provided the program for the March meeting of the Shawnee County Society. Also in March the group held a joint meeting with the Shawnee County Bar Association. At the April meeting there was a forum on Blue Shield with Dr. Conrad Barnes, Seneca, and Mr. Sam Barham and Mr. Proctor Redd, Topeka, taking part.

\* \* \*

Dr. Kenneth McLain, Ransom, was host to the Rush-Ness Society at a meeting held April 6, with all members attending. Dr. N. W. Robison, Bison,

was appointed secretary to fill out the term of the late Dr. J. E. Attwood. Plans for a memorial for Dr. Attwood were discussed.

\* \* \*

Members of the Franklin and Anderson County Societies were guests of the Miami County Society at a meeting held at Paola March 17. Dr. Haddon Peck of St. Francis was guest speaker.

\* \* \*

Dr. and Mrs. J. H. Gilbert, Seneca, entertained members of the Nemaha County Society and Auxiliary at a buffet supper at their home March 28. The physicians held a business meeting later with Dr. Winstan L. Anderson, councilor, as guest speaker.

\* \* \*

The quarterly meeting of the Mid-Kansas Medical Society was held at the Town and Country Club in Lyons April 4. After the dinner session Dr. Thomas N. Hall, of the University of Kansas Medical Center, spoke on rheumatic fever.

\* \* \*

Physicians of Wellington were hosts to the Tri-County Medical Society at the American Legion building there March 23. Two speakers from the University of Oklahoma Medical School presented the program. Dr. J. M. Parrish spoke on "Pelvic Endometriosis," and Dr. Cleve Beller discussed "Recent Advances in Cardiology."

\* \* \*

The Riley County Society entertained the Auxiliary at a smorgasbord dinner at the Wareham Hotel, Manhattan, March 21.

\* \* \*

A meeting of the Wyandotte County Society was held April 18 at the public health offices in Kansas City. Mr. Blake A. Williamson, attorney for the Kansas State Board of Medical Registration and Examination, gave a tribute to the late Dr. J. F. Hassig, who had served many years as head of that board. During the business session several members of the newly formed grievance committee, of which Dr. O. W. Davidson is chairman, reported on activities and plans of that group. Mr. Oliver Ebel, Topeka, outlined the objectives of a grievance committee.

---

### Chest Physicians to Meet

The 16th annual meeting of the American College of Chest Physicians will be held at the St. Francis Hotel, San Francisco, June 22 through 25. The Board of Examiners will give oral and written examinations for fellowship on June 22, and candidates for the examination should write the Executive Secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.



## Case Reports From the University of Kansas Medical Center\*

### Tumor Conference

Edited by R. E. Stowell, M.D., and E. B. Taft, M.D.

Dr. Stowell: Carcinoma of the stomach is said to be the most common of all carcinomas, representing one-fourth of all cancer deaths.<sup>1</sup> The frequency is twice as great in males, with a peak incidence between 50 and 70 years. Cancer of the stomach should be suspected in patients over 40 with anorexia, dyspepsia, digestive difficulty or asthenia.

#### Tumor Conference Case No. 49-82

W. M., a 72-year-old white man, was admitted with complaints of weight loss and a lump in his abdomen for eight weeks, vomiting of meals for six weeks and increasing constipation and tarry stools. He lost approximately 12 pounds prior to admission. He had not noted jaundice or pain. The patient appeared chronically ill and there was a hard palpable mass in the right upper quadrant of the abdomen. Initial red blood cell count was 3,100,000 with 58 per cent hemoglobin. White blood cell count and differential were not unusual. Gastric analysis showed free hydrochloric acid in normal amounts. A partial resection of the stomach was done, removing the obstructing lesion at the pyloric end. His postoperative course was complicated by pneumonia and urinary retention. The former responded well to penicillin and the latter to an indwelling catheter.

Dr. Germann: When we gave this patient a barium meal, we found a markedly dilated stomach which contained considerable food and fluid. The antral portion of the stomach is represented by a narrow ragged segment which is consistent with carcinoma. Under the fluoroscope, we could feel a mass in this particular region so that we had no hesitancy about calling this a carcinoma of the stomach with obstruction.

Dr. Helwig: The partially resected stomach showed a mass in the pyloric area which measured approximately 10 x 7 cm. in area and projected more than one cm. above the surrounding mucosa. Microscopically, this is a typical mucinous adenocarcinoma. Nests of similar cells and mucin are found in the periphery of three of the five lymph nodes examined.

#### Tumor Conference Case No. 49-83

L. W., a 63-year-old colored man, was admitted with the chief complaint of stomach trouble. For eight months the patient had had indigestion characterized by epigastric aching, intolerance to solid

foods and limitation of the amount of food that could be eaten at one time. For the month prior to admission he had not been able to take solid food. He had lost 50 pounds of weight in the past six months and he had had almost constant aching in the epigastric region. The patient was emaciated. There was a palpable mass in the upper abdomen which was poorly defined. The red blood cell count was 2,900,000 with 68 per cent hemoglobin. On June 29 total gastrectomy and splenectomy were done. Continuity of the bowel was reestablished by means of an esophago-jejunostomy and a jejunio-jejunostomy. There was no evidence of metastasis to the liver at the time of operation. The patient developed a fistula in his wound drainage tract, but this closed spontaneously after 10 days. He improved gradually, however, and by the time of dismissal on his 25th postoperative day he was taking six feedings per day.

Dr. Germann: The roentgenograms from this patient are typical of carcinoma of the antrum of the stomach as shown in Figure 1. There is an ulcer in the area projecting into the lumen. Under the fluoroscope, peristaltic waves could be seen coursing down the stomach to this point. That they would not pass over the greater curvature at the site of the filling defect suggested that the wall of the stomach was infiltrated with tumor.

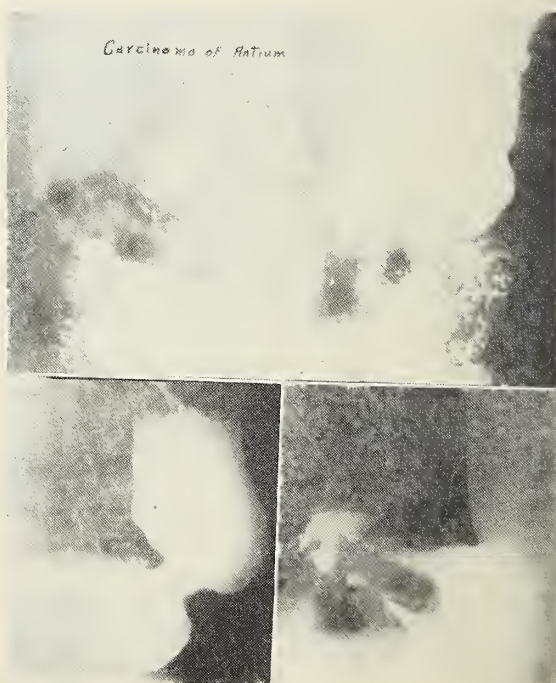


Figure 1

\*Cancer teaching activities aided by a grant from the National Cancer Institute.

Dr. Helwig: This tumor of the stomach measured approximately seven cm. in diameter and was of the fungating type. Microscopically, this ulcerated adenocarcinoma showed differential glandular structures. Several small lymph nodes did not show metastases.

Dr. Orr: There are two points which should be discussed first, from the clinical point of view. Before operating upon a stomach which is obstructed, one must make an effort to empty the stomach and cleanse it so that it will regain its tone. This sort of procedure reduces edema and infection and increases the blood supply to the organ so that an operation is made easier and postoperative complications become less likely. Sometimes this is quite difficult to do, as was found in the first case. Such patients frequently have old food in their stomachs for long periods of time. The resulting irritation and gastritis make emptying the stomach completely a difficult job. Once in a while after emptying such stomachs, the edema will subside sufficiently so that the stomach will no longer be obstructed.

Secondly, I think that in the discussion of such cases one must consider the problem of ulcers of the stomach. I recently heard one of the leading surgeons in this country say that he thought all ulcers of the stomach are surgical and not medical problems. What do you think of this statement, Dr. Helwig?

Dr. Helwig: It is said that five per cent of such ulcers become malignant. The attitude that ulcers of the stomach are a surgical problem is based on unconfirmed claims of malignant changes in a large percentage of gastric ulcers. Conversely, most pathologists are unable to find evidence of chronic gastric ulcer in an overwhelming majority of carcinomas of the stomach.

Dr. Tice: In a recently reported series of cases of gastric ulcers in which the roentgenologist was uncertain as to whether the ulcer was benign or malignant eight per cent were malignant at operation. The surgeon can do a partial gastrectomy in such cases with a surgical mortality of less than 2.5 per cent which is better than the chances of the malignant ulcer case without surgery. It is recommended that a gastric ulcer be treated medically for two weeks. If it shows no evidence of healing during that time, it is advisable to have it removed surgically.

Dr. Stowell: Would you comment further, Dr. Tice, on the role of the radiologist in the diagnosis of carcinoma of the stomach and on the question of general practitioners doing their own roentgenologic diagnostic work?

Dr. Tice: It should be realized that the radiologist is but one of a team of physicians involved in

the diagnosis of gastric cancer. The most important man on the team is the man who first sees the patient. Although the gastroscopist and the cytologist who examine Papanicolaou smears of the gastric mucus are part of the same team, perhaps the radiologist plays the next most important part. His task is to interpret shadows on the fluoroscopic screen and on x-ray film. There are three general types of deformities for which he looks, the proliferative mass which pushes into the stomach displacing barium, the infiltrative mass which results in a tube-like stomach, and the ulcer. The radiologist cannot always accurately evaluate a gastric ulcer. Medical treatment of an ulcer of the stomach for a short time only is indicated.

It seems to me that the problem of office radiology is one of common sense. If a general practitioner realizes his limitations, then he is probably competent to make at least a preliminary examination of the gastro-intestinal tracts of his patients. Of course, if he is in an area where adequate roentgenologic diagnostic service is not available, the situation is somewhat different from that near a medical center.

Dr. Stowell: I have no personal experience with the exfoliative cytological technic mentioned by Dr. Tice, but I understand that it is truly a research tool at present in gastric cancer and that its diagnostic value has not been established.

Dr. Orr: Gastroscopy appears to be at times as uncertain a method of diagnosis as the examination of smears of gastric secretions. In the first place, there are certain areas of the stomach which cannot be visualized.

Dr. Stowell: What about the problem of total gastrectomy versus sub-total gastrectomy in patients with gastric carcinoma?

Dr. Orr: There is a definite tendency to do more total gastrectomies in the treatment of carcinoma of the stomach. I am doubtful that we should go so far in all gastric carcinomas. A recent review of carcinoma of the stomach<sup>2</sup> reported 18.9 per cent five-year survival when the carcinoma was at the pylorus. When it was elsewhere, there were no five-year survivals. For a small carcinoma of the antrum, I would be loathe to do a complete gastrectomy. Faced with an extensive carcinoma involving the lesser curvature of the fundus or the greater curvature, I would, of course, consider total gastrectomy.

Although patients usually do fairly well after total gastrectomy, they may have considerable digestive disturbance. The most distressing consequence of this operation is the persistent diarrhea which frequently develops. Certainly, patients can get along without their stomachs if they are given a proper diet, vitamin B and other dietary essentials.



One of the most dangerous complications of this procedure is that the anastomosis of the esophagus to the jejunum may leak. This is usually a fatal complication, but not necessarily so as was demonstrated by the course of the second patient.

Dr. Helwig: I think that one of the most interesting things brought out by this second patient is that the anemia patients have with gastric neoplasm may not necessarily be of the microcytic hypochromic type. We have no hemogram in this patient, but his color index was 1.17. It has been noted that when the portion of the stomach where the intrinsic factor is manufactured is involved by carcinoma, even in the absence of a gastro-colic fistula, one may find a macrocytic anemia. In fact, it is often most difficult to differentiate the macrocytic anemia seen in patients with carcinoma of the stomach, metastases to the liver and hematemesis from that in patients with cirrhosis of the liver and hemorrhage from ruptured esophageal varices.

Dr. Tice: This brings up the question of the relationship of primary pernicious anemia and gastric cancer. In a rather large series of patients with pernicious anemia who had had gastrointestinal roentgen study Dr. Rigler and co-workers found that a large number had a gastric carcinoma. This constitutes evidence of an increased incidence of carcinoma in patients with pernicious anemia.

Dr. Helwig: In one series of autopsies of patients with pernicious anemia the incidence of cancer was 15 per cent. One of the most prominent cancer surgeons in New York was watched by the group at Memorial Hospital for eight years after the diagnosis of an atypical primary anemia was made. They predicted that he had a good chance of developing a gastric carcinoma, and at the end of the period of observation he was found to have one which was resected.

Student: Do the patients who have undergone complete gastrectomy develop a primary anemia because of the lack of intrinsic factor?

Dr. Orr: Recent reports on this subject suggest that the anemia which these patients are apt to develop seems to be nutritional rather than of the primary type. Of course, it is, on occasion, difficult to differentiate nutritional anemias such as are seen in patients with sprue, from the true primary anemias.

#### References

1. Ackerman, L. U., and Regato, J. A. *Cancer Diagnosis, Treatment and Prognosis*. St. Louis, Mosby, 1947.
2. Bell, W. G. *Problems of Gastric Cancer in University Hospital*. Surgery 23: 351, March, 1948.

cine has been announced by Chancellor Deane W. Malott. They are: Dr. John M. Anderson, lecturer in psychiatry and neurology; Dr. Fred N. Bosilevac, assistant in ophthalmology; Dr. Edward H. Fischer, assistant in medicine; Dr. Paul Moss, assistant in medicine; Dr. John A. Putnam, assistant in ophthalmology; Dr. Leonard P. Ristine, lecturer in psychiatry and neurology; Dr. William Rottersman, lecturer in psychiatry and neurology.

#### Low Infant Mortality Rate in 1948

The infant mortality rate for the United States in 1948 was the lowest on record, according to figures released recently by the Federal Security Agency. By states the rates ranged from 24.3 per thousand live births for Connecticut to 70.1 for New Mexico, with Kansas tying for the tenth best record in the nation at 26.9. The national rate was 32.0.

The ten states producing the best records were: Connecticut with 24.3; Oregon, 25.5; District of Columbia, 25.5; Rhode Island and Wisconsin, 26.3; New Jersey, 26.5; Iowa, 26.6; Massachusetts and Nebraska, 26.8; Kansas and Minnesota, 26.9.

The mortality risk is greater in the first day of life than at any other period during infancy, since one-third of the deaths in the first year occur that day. A second third occur in the remainder of the first month of life, and the last third at ages of more than one month but less than one year. In each of the age intervals the infant mortality rates for males are higher than those for females.

The rate has been reduced by 50 per cent since 1930, when it was 64.6 per thousand live births, with the greatest gain in the group from six to 11 months of age.

In 1948 premature birth was the leading cause of infant death, with a rate of 11.1 deaths per thousand live births. Congenital malformations, pneumonia and influenza, injury at birth, diarrhea and enteritis ranked next among causes. In 1930 premature births caused the largest number of deaths, with pneumonia and influenza ranking second.

#### Cancer Research Grant to K. U.

Public Health Service grants of \$863,496 to aid laboratory and clinical cancer research in non-federal institutions, continuation of previously supported projects, were announced recently by the Federal Security Agency. The awards, including one for \$13,500 to the University of Kansas Medical Center, were made by the National Cancer Institute. Work will be directed by Dr. Robert E. Stowell on the histo-chemical and cytological study of tumors.

#### Seven to Medical School Faculty

The appointment of seven physicians to the faculty at the University of Kansas School of Medi-



Extensive mucosal destruction and ulceration from chronic ulcerative colitis with only a few inflammatory polyps.



# SEARLE

**IN COLITIS MANAGEMENT**—In the constipation of spastic, atonic and even ulcerative colitis, the smoothage action of METAMUCIL is of proved value.

**METAMUCIL<sup>®</sup>** provides a bland, soft bulk with a tendency to incorporate irritating particles with the fecal residue and is thus a valuable adjunct in correcting the constipation and minimizing irritation of the inflamed mucosa. METAMUCIL is the highly refined muciloid of a seed of the psyllium group, *Plantago ovata* (50%), combined with dextrose (50%).



## ACTIVITIES OF MEMBERS

Dr. Orville S. Walters, McPherson, recently received the diploma of the National Board of Medical Examiners after completing Part III in Chicago.

\* \* \*

Six Topeka physicians have announced the purchase of a brick building at 10th and Fillmore, Topeka, in which they will establish a medical clinic. Those in the group are Dr. Henry S. Blake, Dr. B. I. Krehbiel, Dr. J. K. L. Choy, Dr. Louis Cohen, Dr. Richard Greer and Dr. Leslie L. Saylor.

\* \* \*

Dr. Seth L. Cox, Topeka, has resigned his position as executive secretary of the Kansas Tuberculosis and Health Association after 30 years service.

\* \* \*

Citizens of Peabody and community celebrated "Dr. Johnson Day" on March 14 to honor Dr. E. H. Johnson, who has practiced there for more than 50 years.

\* \* \*

Dr. La Verne B. Spake, of the University of Kansas Medical Center, received the annual honor award of the Sigma Alpha Epsilon alumni association of Greater Kansas City at a banquet held March 10. The award was based on Dr. Spake's contributions to medicine.

\* \* \*

Dr. Orville R. Clark, Topeka, chairman of the Committee on Control of Cancer, addressed a district meeting of the Kansas Division of the American Cancer Society at Manhattan in March.

\* \* \*

Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, was recently appointed to the Committee on Professional Education of the National Conference of Cardiovascular Diseases.

\* \* \*

Dr. John A. Billingsley, Kansas City, was recently named consultant and member of the Advisory Committee of the National Society for the Prevention of Blindness.

\* \* \*

Dr. Glen Ashley, Chanute, discussed common communicable diseases of children at a meeting of the Chanute P.T.A. in March.

\* \* \*

Dr. William L. Borst, Topeka, recently completed 50 years of practice. He has delivered more than 2,000 babies during that time.

\* \* \*

Dr. H. R. Landmann, Topeka, recently became a diplomate of the American Board of Internal Medicine.

Dr. H. O. Anderson, Wichita, spoke on "Rehabilitation of the Hand" before the Kansas Chapter of the American Physical Therapy Association at a meeting held recently at the Wichita VA Hospital.

\* \* \*

Dr. George M. Gray of Kansas City, oldest living past president of the Kansas Medical Society, celebrated his 94th birthday anniversary in March.

\* \* \*

Dr. J. L. Lattimore, Topeka, who has served in the Kansas House of Representatives for three terms, has announced that he is a candidate for re-election.

\* \* \*

Dr. T. L. Foster of the Hertzler Clinic addressed a recent meeting of the Halstead Lions Club, speaking on the care of mental patients.

\* \* \*

Dr. S. A. Scimeca, formerly of Mountain View, Missouri, has announced that he will move to Scott City to practice there.

\* \* \*

Dr. H. H. Crank, who has been on the staff of the Menninger Foundation since 1939, went to Houston May 1 to enter private practice there and to teach at Baylor University Medical School and the VA Hospital in Houston.

\* \* \*

Dr. Saul Zizmor, Parsons, recently completed a refresher course at the Cook County Graduate School of Medicine, Chicago.

\* \* \*

Dr. C. S. Fleckenstein, Onaga, has been appointed health officer for Pottawatomie County for 1950.

\* \* \*

Dr. C. C. Tucker and Dr. C. Alexander Hellwig, Wichita, are authors of a paper, "The Causes and Treatment of Pruritus Ani," which will be presented before the Section on Gastro-Enterology and Proctology of the A.M.A. at its meeting in San Francisco in June.

\* \* \*

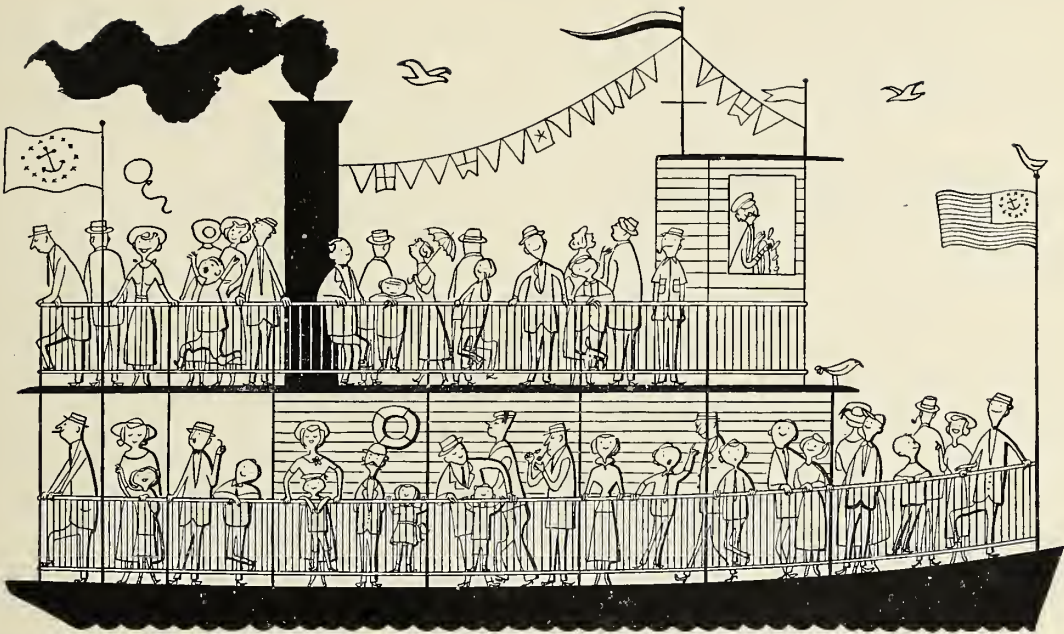
Dr. J. Russell Nevitt, Iola, has opened a newly constructed hospital at Moran. He is continuing to maintain his office in Iola.

\* \* \*

Dr. John T. Swanson, Independence, is serving as radiologist at the Coffeyville Memorial Hospital two days each week.

\* \* \*

Dr. DeWitt S. Lowe, who recently opened an office in Hiawatha, spoke before the Hiawatha Kiwanis Club recently. He told of experiences during his 14 years as a medical missionary in Korea.



## It would take a small excursion boat

to bring you all  
the patients who represent  
each of the many conditions  
for which short-acting  
NEMBUTAL is effective

● More than 44 clinical uses for short-acting NEMBUTAL have been reviewed in the literature during the 20 years the drug has been effectively used. Some of these uses may be applicable in your own practice.

With short-acting NEMBUTAL, doses adjusted to the need can provide any degree of cerebral depression—from mild sedation to deep hypnosis. Dosage required is only about *one-half* that of certain other barbiturates. Because there is less drug to be eliminated, there is less possibility of barbiturate hangover and wider margin of safety.

You'll find short-acting NEMBUTAL available in the form of Nembutal Sodium, Nembutal Calcium and Nembutal Elixir, all in convenient small-dosage preparations. Write for handy booklet, "44 Clinical Uses for Nembutal."  
ABBOTT LABORATORIES, North Chicago, Ill. *Abbott*

*In equal oral doses, no other barbiturate  
combines QUICKER, BRIEFER,  
MORE PROFOUND EFFECT than*

**NEMBUTAL<sup>®</sup>**  
(PENTOBARBITAL, ABBOTT)



Dr. E. B. Struxness, who has been with the Trueheart Clinic at Sterling on a temporary basis for several months, will join the staff permanently.

\* \* \*

Dr. V. E. Chesky, Halstead, vice president of the American Goiter Society, attended a meeting of that group in Houston recently.

\* \* \*

Dr. C. H. Benage, Pittsburg, spoke on "Current Legislation as it Affects Medical Practice and Patient Care" before the third district institute of the Kansas State Nurses Association, held at Pittsburg recently.

\* \* \*

Dr. Richard S. McKee, Leavenworth, was named president-elect of the Kansas City Society of Anesthesiologists at a meeting held recently. He will take office as president in 1951.

\* \* \*

Dr. J. E. Hill, Wellington, has returned from Puerto Rico where he spent two months at Bayon District Hospital and San Juan Municipal Hospital in ophthalmological surgical service.

\* \* \*

Dr. Ralph Jordan, Holton, has been named president of the Holton Rotary Club. He will take office July 1.

\* \* \*

Dr. R. I. Canuteson, director of Student Health Service at the University of Kansas, Lawrence, has been granted a sabbatical leave to travel and study in Europe. He will return in mid-September.

\* \* \*

A speakers' bureau in Emporia, sponsored by the Lyon County Medical Society and Auxiliary, recently provided 15 different talks in a period of one month. Those making the talks were Dr. T. P. Butcher, Dr. C. R. Hopper, Dr. D. R. Davis, Dr. J. J. Hovorka, Dr. R. A. Moon, Dr. D. L. Traylor and Dr. J. L. Morgan.

\* \* \*

Dr. W. M. Reitzel, Manhattan, has announced plans to retire from active practice in June.

\* \* \*

Dr. John A. Billingsley, chairman of the Department of Ophthalmology at the University of Kansas Medical Center, is resigning the chairmanship but will continue work in the department. Dr. Albert N. Lemoine, Jr., who has been on the faculty since 1947, will become chairman.

\* \* \*

Two former members of the Kansas Medical Society, Dr. Herlan O. Loyd and Dr. Earl L. Loyd, are now practicing in Jefferson City, Missouri. Both recently became diplomates of the American Board of Internal Medicine. Dr. Herlan O. Loyd formerly

practiced in Arkansas City and Topeka and Dr. Earl L. Loyd was located at Salina. Their father, Dr. Perry A. Loyd, continues to practice in Salina.

\* \* \*

Twenty-five Kansas physicians attended the second annual scientific session of the American Academy of Medicine, held in St. Louis in February, according to Dr. L. B. Gloyne, Kansas City, president of the Kansas Academy of General Practice. They are: Drs. A. W. Fegty, Clyde W. Miller and Jay K. Wisdom, Wichita; L. B. Gloyne, Albert C. Harms, Edward H. Hashinger, Harvey L. Lloyd, Z. Miles Nason, P. M. Nunn and A. L. Robbins, Kansas City; A. R. Chambers and Eugene Myers, Iola; Howard E. Roberts, Topeka; Charles L. White, Great Bend; Conrad M. Barnes, Seneca; Arnold H. Baum, Dodge City; Frank K. Bosse, Archison; William M. Brewer, Hays; Virgil E. Brown, Sabetha; John F. Coyle, Coffeyville; H. S. Dreher, Salina; D. L. Evans, Manhattan; James P. Haigler, Hays; Victor G. Haury, Wellsville; B. N. Lies, Colwich.

\* \* \*

Dr. Harold H. Jones, Winfield, presented a paper, "The Biochemistry of Multiple Sclerosis," at a meeting of the American College of Physicians in Boston last month. The paper was based on work done at the Research Foundation in Winfield during the past six years.

\* \* \*

Dr. Marshall E. Hyde, who has been practicing in Ottawa, has joined the staff of the Veterans Hospital in Wichita.

\* \* \*

Dr. J. L. Mothershead has announced that he is closing his office at Denton to re-enter the Army as a major in the Medical Corps. He is awaiting orders and assignment.

\* \* \*

Dr. Arthur E. O'Donnell, Junction City, celebrated the 50th anniversary of his graduation from medical school last month.

\* \* \*

Residents of Fowler and community celebrated Robb Day April 15, honoring Dr. J. C. Robb, who has practiced there 42 years.

\* \* \*

Dr. J. D. Pace, Parsons, was elected president of the Rotary Club in that city last month.

\* \* \*

Dr. C. N. Petty, Altamont, recently observed the 53rd anniversary of his start in practice there. During recent months he has been confined to his home because of illness.

\* \* \*

Dr. and Mrs. C. W. Beasley, Lyndon, observed their 50th wedding anniversary on April 23, and

# The \$64.00 Question

How much longer do you expect to practice?

Might it be 10, 15 or 20 years?

Will you average \$750 a month—\$9,000 a year gross income?

Will your aggregate income amount to \$90,000—\$135,000 or \$180,000 or more?

These are Incomes worth Insuring!  
CAN YOU insure your Income for 20 years?

YES! You can insure against loss of Income up to 75 %

For 1 year or for 20 years or **EVEN FOR LIFE—**

Against Accidental Death, Loss of Hands, Feet or Eyes,

Total Disability—Loss of Time due to Accident or Sickness.

## CONTINENTAL'S COMPANION POLICIES, Provide—

Hospital Benefits of \$20 per day (Maximum \$1,800) plus  
Accident & Confining Sickness of \$400 a month first 2 Yrs. (\$200 1st mo.) and  
Total Permanent Disability Benefits of \$300 a month thereafter for Life  
Loss of Hands, Feet or Eyes \$5,000 and \$300 a month for Life  
Accidental Death Benefits of \$7,500—Travel Acc'd \$12,500  
(Adjusted benefits for disabilities occurring after age 60)

## SPECIAL FEATURES

*No Cancellation Clause,—Standard Provision 16*  
*No Terminating Age,—Standard Provision 20*  
*No Increase in Premium,—Once Policy is Issued*  
*Grace Period 15 Days*

*Non Pro-Rating,—Standard Provision 17*  
*Non-Assessable,—No Contingent Liability*  
*Non-Aggregate,—Previous Claims Paid do not limit Company's Liability*

## Unusually Complete Protection

- ★ Provides Monthly Benefits from 1st Day to Life.
- ★ Provides Benefits for both Sickness and Accident.
- ★ Provides Lifetime Benefits for Time or Specific Losses.
- ★ Provides Regular Benefits for Commercial Air Travel.
- ★ Provides Benefits for Non-Disabling Injuries.
- ★ Provides Benefits for Non-Confining Sickness.
- ★ Provides Benefits for Septic Infections.
- ★ Pays Whether or not Disability is Immediate.
- ★ Waives Premiums for Total Permanent Disability.
- ★ Renewal is guaranteed to individual active members, except for non-payment of premium, so long as the plan continues in effect for the members of your designated organization.

## CONTINENTAL CASUALTY COMPANY

PROFESSIONAL DEPARTMENT, *Intermediate Division*

**30 EAST ADAMS STREET—SUITE 1100—CHICAGO 3, ILLINOIS**

Also Attractive  
Health With  
Lifetime Accident  
Policy I.P.-1327  
For Ages 59 to 75

Name.....

Address.....

Age.....

**NOTICE**—Only Companion Policies GP 1309 and IP-1308 pay the above benefits.  
**IMPORTANT—Permit no agent to substitute—IMPORTANT**



were guests of honor at a community celebration at which they were given numerous gifts, including a new car. Dr. Beasley has practiced in Lyndon for 56 years.

As a result of intensive studies during the past few years, evidence has accumulated which suggests that histoplasmosis—formerly believed to be a rare and usually fatal disease—also exists as a mild

asymptomatic syndrome which is very prevalent in certain parts of the world. Although quite typical cases of clinical histoplasmosis are probably much more frequent than previously thought, the principal significance of the asymptomatic form is that in certain respects the disease so closely resembles tuberculosis as to be frequently confused with it.—*Michael L. Furcolow, M.D., Pub. Health Rep. Nov., 1949.*

## DEATH NOTICES

### EDWARD KING LAWRENCE, M.D.

Dr. E. K. Lawrence, 68, an honorary member of the Brown County Society, died February 21 after suffering a heart attack. A graduate of the Lincoln Medical College in 1902, he received his Kansas license in 1903 and had practiced in Hiawatha since 1920. He was a veteran of the last three United States wars and was State Commander of the Spanish-American War Veterans at the time of his death.

\* \* \*

### GEORGE ROLAND DEAN, M.D.

Dr. G. R. Dean, 78, who had served as a member of the Kansas State Board of Medical Registration and Examination for the past 30 years, died at McPherson February 28 after an illness of several months. He was graduated from the Medical Department of the National University of Arts and Sciences, St. Louis, in 1894 and began practice in Kansas in 1901, locating at Windom and later moving to McPherson. At the time of his death he was serving as county health officer. He was an honorary member of the McPherson County Society.

\* \* \*

### WILLIAM CHAMLIN HEASTON, M.D.

Dr. W. C. Heaston, 77, a member of the McPherson County Society, died March 4 following a stroke. He had practiced in McPherson since 1908, after his graduation from Ensworth Medical College, St. Joseph, except for an interval during World War I when he served in the Army medical corps. He was a fellow of the American College of Surgeons.

\* \* \*

### JOHN E. ATTWOOD, M.D.

Dr. J. E. Attwood, 74, who had practiced in La Crosse since 1914, died March 5. He was graduated from the Kansas City College of Medicine in 1901 and practiced for 13 years at Utica, then going to Ottawa for a year before establishing his office in La Crosse. He was a charter member of the Rush-Ness Society.

### JAMES H. PENNINGTON, M.D.

Dr. J. H. Pennington, 49, radiologist on the staff of St. Anthony Hospital, Dodge City, died March 8, after having been ill with pneumonia for several days. He received his medical education in Georgia, graduating from Emory University in 1923. During World War II he served as a medical officer in the Navy, later practicing in Kentucky. He came to Kansas a year ago and was an active member of the Ford County Society.

\* \* \*

### CLEM HOOD JONES, M.D.

Dr. C. H. Jones, 84, Galena, died March 29 at his home. He was an honorary member of the Cherokee County Society. Dr. Jones practiced first in Arkansas, then spent three years in Mound Valley, and located in Galena in 1900, continuing to practice there until his death.

\* \* \*

### EDWIN GRANT GANOUNG, M.D.

Dr. E. G. Ganoung, 84, an active member of the Saline County Society, died January 23. He was graduated from the University of Kansas School of Medicine in 1910, receiving his Kansas license the same year. His practice was limited to eye, ear, nose and throat work.

\* \* \*

### JOHN FRANKLIN HASSIG, M.D.

Dr. J. F. Hassig, 75, one of the most widely known physicians in Kansas, died April 13 in Kansas City. He had been a member of the Kansas State Board of Medical Registration and Examination for 26 years, 14 years as president and 12 years as secretary, a position he held at the time of his death. He had also served the Kansas Medical Society in many ways, as secretary for 17 years, then as president in 1935, and later as delegate to the American Medical Association. He was graduated from the Kansas City College of Physicians and Surgeons in 1899 and had practiced in Kansas City since that time.





*in active rheumatoid  
arthritis, the "best  
agent... that is  
readily available."*<sup>1</sup>

Many therapeutic agents have been advocated for the treatment of active rheumatoid arthritis, with varying degrees of success. Among those now generally available, gold is "the only single form of therapy which will give significant improvement."<sup>2</sup>

SOLGANAL<sup>®</sup> for intramuscular injection is practical and readily available therapy. It acts decisively, inducing "almost complete remission of symptoms" in fifty per cent of patients and definite improvement in twenty per cent more.<sup>3</sup>

Detailed literature available on request.

Suspension SOLGANAL in Oil 10, 25 and 50 mg. in 1.5 cc. ampuls; boxes of 1 and 10 ampuls. Multiple dose vials of 10 cc. containing 10, 50 and 100 mg. per cc.; boxes of 1 vial.

# SOLGANAL

(aurothioglucose)

**BIBLIOGRAPHY** (1) Holbrook, W. P.: New York Med. (no. 7) 4:17, 1948. (2) Ragan, C., and Boots, R. H.: New York Med. (no. 7) 2:21, 1946. (3) Rawls, W. B.; Cruskin, B. J.; Ressa, A. A.; Dworzan, H. J.; and Schreiber, D.: Am. J. M. Sc. 207:528, 1944.

*Schering*

CORPORATION • BLOOMFIELD, N. J.

SOLGANAL





## THE KANSAS PRESS LOOKS AT MEDICINE

### Here It Comes!

If you haven't already received a very ably-designed folder printed in red-white-and-blue, you probably will before too long. It is intended to bombard the public with all kinds of reasons for "Why We Need National Health Insurance." With one received by this office there was a questionnaire asking if you are "undecided" or "convinced" that a national health insurance program is needed. If an officer in an organization, you have a place to voice opposition but, as an individual, it is taken for granted you are "undecided" or "convinced." You might naturally presume the "Committee" doesn't want to know an individual's opinion otherwise.

The questionnaire encourages you to write your president, congressman and friends—if you favor such a program. You are asked to send names of three people "(use separate sheet if necessary)" who might be interested in helping. Everything is credited to "The Committee for the Nation's Health."

It's only fair that the public knows who is behind the national health program; why it is not called socialized medicine, its rightful name; and who pays for the office space, printing and postage. Incidentally the questionnaire "allows" your contribution. . . .

"Someone" seems to feel it his "destiny" to look after the nation's health—and on contributions out of pockets other than his own. It's a great racket, if it works.

If the bill in congress is correctly numbered in the socialized medicine folder, it is No. S. 1679 and was introduced by Mr. Thomas of Utah (for himself, Mr. Murray, Mr. Wagner, Mr. Pepper, Mr. Chavez, Mr. McGrath and Mr. Humphrey). Your congressmen must feel your support if this bill is to be defeated as the first step in stopping a government spending spree with public funds. Write your congressman and, in all fairness, speak as you feel on this and all things of socialized nature.—*Pretty Prairie Times, February 2, 1950.*

\* \* \*

### Social Medicine

Attention Doctors: Social medicine is a good deal.

Think of it! Working on the government payroll you will have an eight hour day, five day week, 26 days per year vacation with pay, 15 days per year sick leave, and during working days 15 minutes respite from scalpel and ether every morning and afternoon for coffee.

And when some unhappy citizen calls you at three o'clock in the morning to report that his appendix is threatening to pop all over the clean sheets in his bed you can either refer him to the night shift or tell his wife to call the laundry in the morning.

The notes you took on the ethics of the medical profession back in your college days? Just drop them in the nearest wastebasket. Look at all the sleep "ethics" have caused you to lose and the red ink they have piled up in your account books.—*Norton Telegram, January 5, 1950.*

\* \* \*

### Compulsory Insurance

*(Editor's Note. The following editorial was written by Camilla Klein, daughter of Dr. R. G. Klein, Dodge City.)*

Americans have never liked the word "compulsory." They have been bucking it ever since a handful of them got fighting mad when Great Britain tried to make them pay some taxes that didn't seem fair. The very thought of the word has made them bristle. It rules out the opportunity for free choice in a matter, and we have been proud of our freedom. It implies that we can't take care of ourselves, and we're proud of our self-reliance.

From time to time, it is true, we have delegated the right to make a thing compulsory to our government. But we have been careful about it. And we have been very certain that what we wished to accomplish could be obtained in no other way.

The newest project which some forces would have us make compulsory is health insurance. Don't be fooled by that word, insurance. This is no more insurance than any tax is insurance. What is proposed is a compulsory health tax, and as much of the money paid into it will be sidetracked into collection agencies, red tape bureaus, and political plums as happens in most of our government agencies. . . .

Are such measures warranted by our situation? Are there no adequate voluntary insurance systems in which we can enroll without being forced to do so?

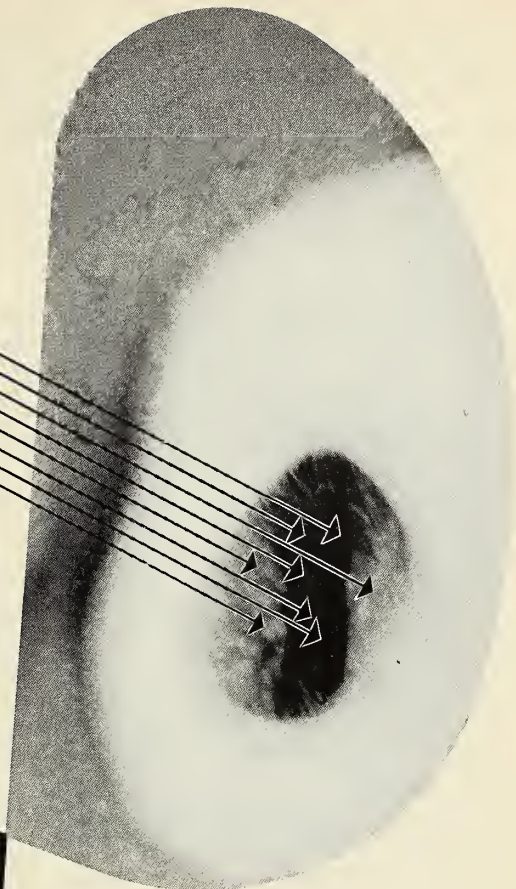
Many private insurance companies feature health and accident insurance. Daily the Blue Cross and Blue Shield plans are being enlarged to cover additional groups of people and additional illnesses. But proponents of the compulsory health insurance plan wail that these do not embrace enough people, that no segment of the American people should be forced to accept charity.

What about the unemployed and the indigent under the compulsory plan? Their insurance is to be paid by "the welfare agencies responsible for them." No charity! . . .

Americans have always been an independent peo-

# open the nasal passages

Swollen nasal mucous  
membranes . . . lacrimation . . .  
nasal discharge—the most acutely  
annoying manifestations of upper  
respiratory tract allergy or  
infection—respond quickly  
to the vasoconstrictive action of



## neo- synephrine®

HYDROCHLORIDE

BRAND OF PHENYLEPHRINE HYDROCHLORIDE

decongestive for allergic rhinitis, colds, sinusitis

### neo-synephrine is

prompt and prolonged in its decongestive action  
effective on repeated application  
virtually nonirritating  
nonstimulating to central nervous system

Supplied in ¼% solution plain and aromatic, 1 oz. bottles.  
Also 1% solution (when greater concentration is required), 1 oz. bottles,  
and ½% water soluble jelly, ½ oz.

*Winthrop Stearns* INC.  
NEW YORK 13, N. Y. WINDSOR, ONT.

NEO-SYNEPHRINE, TRADEMARK REG. U. S. & CANADA



ple, fiercely proud of their freedom and deeply suspicious of that which takes away the slightest part of that freedom. Let us at least give the voluntary plans an opportunity to work before we commit ourselves to any new government control of our lives.—*Dodge City Journal*.

\* \* \*

#### Alert on Medical Progress

There was something out of the ordinary at the Kansas Medical day session at the University of Kansas school of medicine this week. Busy members of the Kansas Medical society—the high command of organized medicine in the state—spent an entire day talking to, counseling with and entertaining students who will be the future physicians of the state.

The juniors and seniors were both puzzled and delighted by the attention from the men who had made an outstanding success in their profession. There was much advice from the doctors about the practical problems of working and living, based on experiences that could not be gained in the classroom or hospital. Both groups profited from the association.

Organized medicine in Kansas is keenly aware that the state's rural health plan, a practical, working means of filling the doctor shortage in rural districts, has captured the nation's attention. The program was initiated by Dr. Franklin D. Murphy, dean of the medical school, with the state society's wholehearted backing.

Kansas has become a laboratory for a social experiment in which medicine is geared to free enterprise for the public good. And Kansas doctors have awakened to their own omissions in the past. They are determined that the program shall show impressive results. All the weight of organized medicine is behind it, as the meeting with the students illustrates.

The hopes of the state society go even further. As Dr. Haddon Peck, the society's president, explained it, his group would like to see the medical school students become not only the best doctors in Kansas but in the entire United States.

Organized medicine, once the bastion of specialists and high fees, is showing increasing consciousness of its obligation to bring good medicine to all. It was significant that the Kansas doctors brought Dr. A. R. Sugg, of Ada, Okla., to talk at the student dinner. Dr. Sugg founded a 14-doctor, 4-story clinic that engages in group practice and charges uniform nominal fees to everyone alike, plus handling its share of charity patients. He told the students they could make a good living and perform

tremendous service in group practice. If they wanted to get rich, he said, they could go it alone.

The awareness of the medical profession that it must expand its service and make it widely available at moderate cost is its best assurance of continued freedom. The Kansas doctors recognize the fact. They feel deeply that if the United States is going to continue to offer the best medicine in the world, it must be left without regimentation—that the best way to keep it so is to do such a good job there will be less pressure for federal control.—*Kansas City Star*, March 10, 1950.

---

#### Request from Board of Registration and Examination

The Kansas State Board of Medical Registration and Examination announces that notices for annual re-registration will be sent out from the secretary's office about June 15, and requests that no remittances be mailed until the official notice has been received. Upon receipt of that notice, each physician is asked to complete the application card and mail it with his remittance, also notifying the Board of any change in address during the past year. An interval of four to six weeks will elapse between receipt of application and issuance of official acknowledgements.

---

#### Award by K. C. Clinical Society

The Kansas City Southwest Clinical Society has announced establishment of a fund for a merit award for graduates in medicine now serving residencies or internships in approved hospitals in this area. Contestants will submit essays representing reviews of clinical cases in the hospital in which they work or actual experimental work in the laboratory. Prizes of \$500, \$100, and \$50 will be given.

Applications for participation must be submitted in writing with the endorsement of the superintendent of the hospital. On the list of eligible physicians are residents and interns in hospitals of Arkansas, Colorado, Iowa, Kansas, Missouri, Nebraska and Oklahoma. Complete information may be secured from the Kansas City Southwest Clinical Society, 630 Shukert Building, Kansas City 6, Missouri.

---

Statesmen and economists all over the world seem to realize the close relation between health and economy, health and social conditions, health and the standard of living.—*WHO Newsletter*, July-August, 1949.

# The Protein-Rich Breakfast and Morning Stamina

Extensive studies\* by the Bureau of Human Nutrition have established that breakfasts rich in protein and supplying 500 to 700 calories, effectively promote a sense of well-being, ward off fatigue, and sustain blood sugar levels at normal values for the entire morning postbreakfast period.

*These physiologic advantages are related mainly to the protein content rather than to the caloric content of the breakfast.* In fact, when isocaloric breakfasts were compared, those with the higher amounts of protein led to the greatest beneficial effects. Breakfasts providing the lower quantities of protein (7 Gm., 9 Gm., 16 Gm., and 17 Gm. respectively) produced a rapid rise in the blood sugar level and a return to normal during the next three hours. Breakfasts providing more protein (22 Gm. and 25 Gm. respectively) produced a maximal blood sugar rise which was lower than that following the breakfasts of lower protein content, but the return to normal was delayed beyond the three hour period.

The subjects on the higher protein breakfasts "reported a prolonged sense of well-being and satisfaction." The findings indicated that the beneficial effects of the high protein breakfast on the blood sugar level may extend into the afternoon.

Meat, man's preferred protein food, is a particularly desirable means of increasing the protein contribution of breakfast. The many breakfast meats available are not only temptingly delicious and add measurably to the gustatory appeal and variety of the morning meal, but they also provide biologically complete protein, B-complex vitamins, and essential minerals. *Meat for breakfast, a time-honored American custom, is sound nutritional practice.*

\*Orent-Keiles, E., and Hallman, L. F.: The Breakfast Meal in Relation to Blood-Sugar Values, Circular No. 827, United States Department of Agriculture, Bureau of Human Nutrition and Home Economics, Agricultural Research Administration, Dec., 1949.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.



**American Meat Institute**  
Main Office, Chicago...Members Throughout the United States



## ABSTRACTS FROM CURRENT LITERATURE

### Congenital Impatency of Nasolacrimal Duct

*The Incidence of Congenital Impatency of the Nasolacrimal Duct.* By Edwin L. Kendig, Jr., et al. *Jnl. Ped.*, 36:2, 212, Feb., 1950.

There is little factual basis for the old belief that the instillation of silver nitrate into the newborn infant's eye can give rise to impatency of the nasolacrimal duct. The authors studied a series of 1,000 new born infants and observed 57 cases (5.7 per cent) of congenital impatency of the duct. The diagnostic criteria were the presence of epiphora and the appearance of mucopus after pressure over the affected lacrimal sac.

Treatment consisted of local application of a penicillin ointment containing 1,000 Oxford units per gram of ointment base three times daily, and massage by the mother over the region of the sac.

Conservative treatment was kept up for six months. If unsuccessful, probing of the lacrimal duct was carried out under general anesthetic. A number one Bowman probe is introduced through the superior punctum and canaliculus after dilatation of the punctum with a dilator. The inferior meatus is explored with a submucous elevator and the probe located and rubbed until bare metal is felt.—D.R.D.

\* \* \*

### Idiopathic Thrombocytopenic Purpura

*Splenectomy for Idiopathic Thrombocytopenic Purpura.* By Ralph V. Byrne, *Am. Jnl. Surg.*, 446-449, March, 1950.

The author reports five cases of splenectomy for idiopathic thrombocytopenic purpura. The age range was from five to 45 years. Two patients were suffering from concomitant cerebral hemorrhage which required subsequent craniotomy for removal of subdural hematoma. This complication is of grave significance. The author feels that in cases where the diagnosis of idiopathic thrombocytopenic purpura is in question, sternal bone marrow biopsy should be made. If the diagnosis is confirmed, ruling out bone marrow failure due to other causes, splenectomy should be done during a relatively quiescent phase of the disease, at which time careful search can be made for accessory spleens—as many as 30 having been reported in one patient. During a severe hemorrhagic crisis emergency splenectomy may be lifesaving. A large portion of the blood to be used for transfusion should be held until the splenic artery has been clamped.—T.P.B.

\* \* \*

### Alpha Tocopherol in Heart Disease

*Failure of Alpha Tocopherol to Influence Chest Pain in Patients with Heart Disease.* By S. R. Rinzler, H. Bakst, Z. H. Benjamin, A. L. Robb and J. Travell, *Circ.*, 1:2, 288-293, Feb., 1950.

Stimulated by previous conflicting reports and because those reports failed to include "controls," the New York investigators studied 41 ambulatory cardiac clinic patients. Thirty-eight patients completed the course of therapy. Half of them received the optimum daily dose (200 and later 300 mgm. of alpha tocopherol orally) of the vitamin and half of them were given placebos. Neither the patients nor the examiners knew who was receiving placebos. Objective studies included electrocardiograms, x-ray examinations of the heart and spine, complete blood counts, urinalysis, blood chemistry, erythrocyte sedimentation rates, and special studies. The latter included: exercise tolerance (two-step technique); skeletal muscle power (strength of the grip in each hand); measurement of skeletal muscle endurance.

The study conducted was on the 38 cooperative patients for an average of 16 weeks (10 to 20 weeks).

The patients had arteriosclerotic and/or hypertensive heart disease. They had three types of chest pain: 27 had angina of effort, three had constant chest pain, four had intermittent chest pain unlike effort angina. The latter two groups were considered as having somatic pain and the first group primarily pain of cardiac origin. Two patients had both angina and constant chest pain and two patients who had previously had effort angina became free of it a few days before medication was begun.

The authors conclude, "The effects of medication on chest pain and on objective measurements of cardiac and skeletal muscle function were similar for the group given alpha tocopherol and for the controls who received the placebo...our results fail to confirm the reported benefits of alpha tocopherol in cardiac pain." They emphasize the fact that dosage and time of administration were more than that advised by authors who have reported favorably on this therapy. Reference is made to five other reported series of case studies on this subject also with the conclusion that alpha tocopherol had failed to relieve angina pectoris.—P.W.M.

\* \* \*

### Ulcerative Colitis

*The Surgical Treatment of Ulcerative Colitis.* By Bentley P. Colcock, *N.E. Jnl. Med.*, 242: 320-323, Mar. 2, 1950.

The author reports 263 cases of ulcerative colitis operated upon from 1927 to January, 1949. An

**point of departure**

**for special**

**feeding cases...**

8 oz.

7

6

5

4

3

Dryco is not only the point of departure for almost every type of infant formula—it is also in itself a valuable food for special cases.

Dryco assures ample protein intake while its low fat ratio and moderate carbohydrate content minimize digestive disturbances.

The applicability of the Dryco formula is strikingly seen in an observation by Pitt: "The majority of cases of infant diarrhea, seen in private practice, are of such nature that changing the formula to one of low fat and low carbohydrate is all that is necessary to correct the condition..." Dryco is specifically recommended for use in these cases.\*

In addition to formula flexibility, Dryco offers other advantages.

Dryco's special drying process makes it more easily digested by certain infants than the fresh milk from which it is made. It supplies more minerals, particularly more calcium, than a corresponding formula of whole milk, plus 2500 U.S.P. units of vitamin A and 400 U.S.P. units of vitamin D per reconstituted quart. Only vitamin C need be added. Each tablespoonful supplies 31½ calories. Readily reconstituted in cold or warm water.

Available at pharmacies in 1 and 2½ lb. cans.

\*Pitt, C.K.: *The Art and Science of Artificial Infant Feeding*, J.M. Asso. Ala. 19:101 (Oct.) 1949.

**Dryco®**



*a versatile*

*base*

*for*

*"Custom"*

*formulation*

**The Prescription Products Division, The Borden Company**  
350 Madison Avenue, New York 17, New York



ileostomy was carried out on 216, and partial colectomy on 59 patients; 148 patients had a complete colectomy, in addition to ileostomy.

Indications for surgery, as based upon the experience were: acute fulminating ulcerative colitis; hemorrhage; perforation; infectious arthritis; obstruction; malignant degeneration; and intractability of the disease. Types of surgery indicated are ileostomy and subtotal and total colectomy. Appendicostomy, cecostomy and colostomy are of little value in the treatment of ulcerative colitis. Segmental resection for limited disease to one segment of the colon gives poor results. Most cases require an ileostomy, which is followed by two-stage total colectomy and abdominoperineal resection, depending upon the extent of the disease. Closure of the ileostomy and re-establishing of the intestinal continuity had to be done in about 10 per cent of the cases; and this only after every effort was made to determine that the colon was actually completely healed.

The following criteria for closure of an ileostomy had been used; symptom free for one year; negative sigmoidoscopic examination of rectum and rectosigmoid; and adequate lumen present in the colon upon barium enema examination. It was noted that in half of the small percentage of cases it was necessary to re-establish the ileostomy, because of reactivation of the disease.

Since ileostomy in a patient with ulcerative colitis is usually permanent, it is important to consider any technical points that will aid in its proper functioning. These are the placement of the incision, which should be away from the umbilicus and also from the inguinal groove, but on the most convex portion of the RLQ, about 3.5 cm. below and 2.5 cm. to the right of the umbilicus. Ulcerative colitis frequently involves the terminal ileum, so it is important to select a point at least 25 to 30 cm. proximal to the ileo-cecal valve. The ileostomy stump is brought out 3.5 to 5 cm. above the skin level. In anchoring the ileum to the abdominal wall, suture should not be introduced into the bowel wall, because fistula readily develop.

The maintenance of a normal electrolytic balance may become a serious problem during the early post-operative period.

The patient mortality in all patients operated upon up to 1947 was 22.3 per cent. The mortality following ileostomy was 18 per cent. Many of these were moribund, in contra-distinction to a group of 97 who were operated early with mortality of only 4.1 per cent. The mortality for ileostomy alone was 5.6 per cent. The operative mortality was 2.6 per cent.

Not only can lives be saved by surgical inter-

vention, but with the aid of a modern colostomy bag, these incapacitated, depressed persons can be restored to a normal social and economic activity.—*J.J.H.*

\* \* \*

### Hypervitaminosis A

*Hypervitaminosis A.* By M.J.H. Grand and Charles T. Fried, *Am. Jnl. Dis. Child.*, 79:3, 475-486, Mar., 1950.

Hypervitaminosis A is a clinical entity which occurs in late infancy and early childhood. It is due to excessive intake of vitamin A and a derangement of vitamin A metabolism. Clinically, the condition is manifested by anorexia, loss of weight, irritability and fretfulness, low grade fever, rashes, sparseness of hair, hepatomegaly and exquisite pain on pressure over lung bones, high vitamin A serum levels and serum lipid level. Roentgenographically, the changes in the long bones are distinctive, characterized especially by periosteal proliferation.—*D.R.D.*

\* \* \*

### Gas Cysts of the Intestines

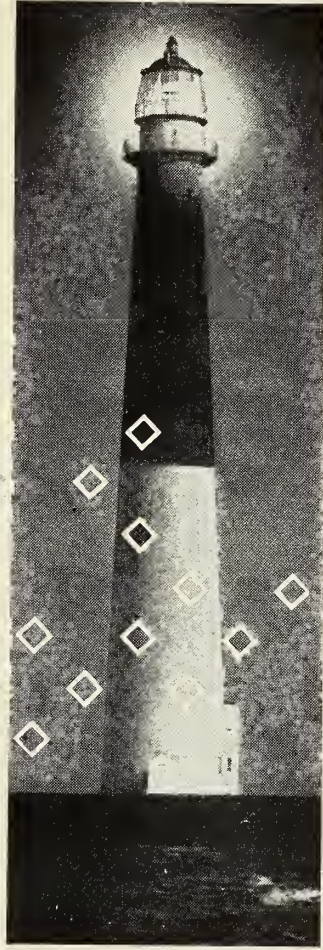
*Gas Cysts of the Intestines—Report of Two Cases.* By W. Andrew Dale and Herman E. Pearse, *Surg., Gyn., Obs.*, 90, 215-220, Feb., 1950.

Gas cysts of the intestines (emphysematosis of the intestines) occur rarely in human beings, but are more common in domestic animals. Multiple thin-walled, gas-containing cystic areas may be found in the walls of the intestine at any level and may be generalized or appear only in a segment of bowel. They may occasionally be single. They are lined with an endothelium-like structure and there is little or no oxygen or carbon-dioxide in the contained gas. One hundred seventy-two cases are reported in the world literature, and the authors add two cases of their own, in one of which the serosa of a loop of ileum was infiltrated and packed with cysts up to two cm. in diameter. This patient had a pyloric stenosis from peptic ulcer. In the second case, which was one of carcinoma of the stomach, the cystic condition was present in both the small and large intestine.

The authors doubt a bacterial or neoplastic origin of the disease and are inclined to attribute its occurrence to an increase in intraintestinal pressure, such as found with obstruction, plus some factor of malnutrition which alters the permeability of the intestinal wall. They suggest that the gas may have passed into the lymphatics and that the cysts may be dilatations of the lymph channels. Intestinal resection may be necessary.—*T.P.B.*



# STABILITY



The inherent stability of Koromex Jelly and Cream over a wide range of temperatures and, despite the seasonal changes, assures the maintenance of physical and chemical properties. As a result of this controlled stability patients do not come in contact with lumpy or watery products, and find Koromex an unfailingly satisfactory product to use.



## KOROMEX

®

A CHOICE OF PHYSICIANS



HOLLAND-RANTOS COMPANY, INC. • 145 HUDSON STREET, NEW YORK 13, N. Y.

MERLE L. YOUNGS, PRESIDENT



---

## BOOK REVIEWS

---

*The Handbook of Obstetrics and Diagnostic Gynecology.* By Leo Doyle, M.D. Published by University Medical Publishers, Palo Alto, California. 240 pages, 45 illustrations. Price \$2.00.

This is a pocket-size, cardboard-bound volume of 232 pages, obviously a small volume in which to cover so much material. About 200 pages are devoted to obstetrics and about 35 pages to diagnostic gynecology. It is difficult to say where the emphasis should be placed, but such a common tumor as uterine myoma is discussed in a group with other pelvic tumors, whereas an entire chapter is devoted to the relatively rare adenomyosis.

One very good chapter discussing troublesome symptoms during pregnancy and specific recommendations for their treatment is noted.

Recommendations for the endocrine therapy of functional bleeding are much too brief and should probably not have been attempted in a volume of this nature.

This book would be useful to one who already had a good basic understanding of obstetrics and gynecology and would like an easily available brief review of certain essentials of these subjects.—W.J.D.

\* \* \*

*Physiology of Heat Regulation and the Science of Clothing.* Edited by L. H. Newburgh, M.D. Published by W. B. Saunders Company, Philadelphia. 457 pages, 78 figures, 38 tables. Price \$7.50.

This book represents the post-war publication of studies contributed during World War II by a group of consultants to the Division of Medical Sciences of the National Research Council.

Prior to World War II military efforts were planned to begin when weather was not a serious detriment. In World War II, on the contrary, fighting took place at any time and soldiers were exposed to all possible environmental conditions from extreme arctic cold to humid tropic heat, and from the low pressure conditions of high altitudes to the high pressure of undersea warfare. There was no background of knowledge concerning the limits or the capacity of the human body to preserve life under the most adverse conditions. The contributions comprising this book represent studies which investigated the problems of the heat regulatory mechanisms of the body and how unfavorable environmental conditions may be mitigated by proper protective clothing. The list of contributors comprises the scientists whose works form the basis of much of today's physiology texts.

As the title implies, the book is divided into two

parts, the first dealing with the human response to the climatic environment and the latter being concerned with factors which make clothing a thermal barrier. It begins with the fascinating account of how nature herself has solved the problems of human adaptations to climate in its many variations. In the opinion of the reviewer this section alone is worth the time of the busy physician, for herein is shown not only the entire evolutionary scale for successful adjustment to climatic extremes, but also the results of imperfect adaptation and how adaptive efforts have influenced the culture and civilization of the peoples.

The remainder of the book is heavy going. The reviewer's reading time from cover to cover was 27 hours. An equal amount of time could be spent on any one of several chapters. Those chapters dealing with the regulation of body temperatures and the physiologic adjustments to heat are classics which for completeness excel any similar effort; careful rereading will teach as much additional as does the first reading. There are excellent chapters on instrumentation necessary for thermal investigations.

The portion of the book dealing with the science of clothing will likely prove of short interest to the average physician. The material presented is impressive and one certainly feels a humble sense of military gratitude for the combined efforts of the scientists in the otherwise completely unrelated fields of physiology and textile engineering. Since medical practice is so sharply regional, only a very small portion of this half of the book would apply to a given medical circumstance. The remainder would be of accessory value only. The bibliographies included with each chapter are complete and up-to-date.

This book will likely not interest the average physician. It could serve well as a reference text to those inquiring medical minds interested in the physiologic response of the body to heat and to cold. Medical students will profit by the monographs on these responses. The research worker in these fields will find help in problems of instrumentation and in compiling bibliographic data. Finally those non-medical individuals who are interested in making clothing a science, not a fashion, will find much to interest them in this volume.—D.L.R.

\* \* \*

*Electrocardiography.* By Louis Wolff, M.D. Published by W. B. Saunders Company, Philadelphia. 187 pages, 110 figures. Price \$4.50.

Dr. Louis Wolff, guided by his experience in teaching electrocardiography at the Harvard Medical School, has written this work primarily as an attempt to provide the student with a knowledge of

OF SPECIAL INTEREST TO GENERAL PRACTITIONERS AND SPECIALISTS

**FOURTH ANNUAL  
ROCKY MOUNTAIN CANCER CONFERENCE**

DENVER, COLORADO

July 19 and 20, 1950

**EIGHT DISTINGUISHED GUEST SPEAKERS**

Lyman A. Brewer, M.D., Los Angeles.....	Chest
Lowell S. Goin, M.D., Los Angeles.....	Radiotherapy
Edward S. Judd, Jr., M.D., Rochester.....	Gastro-Intestinal Tract
Willis J. Potts, M.D., Chicago.....	Malignancies in Children
Herbert W. Schmidt, M.D., Rochester.....	Diagnosis and Respiratory Tract
Grantley W. Taylor, M.D., Boston.....	Breast and Neck
Richard W. TeLinde, M.D., Baltimore.....	Uterus and Ovary
Wolf W. Zuelzer, M.D., Detroit.....	Malignancies in Children

**ROUND-TABLE DISCUSSION**

**NON-SCIENTIFIC BANQUET**

FOR HOTEL RESERVATIONS, WRITE TO CANCER CONFERENCE, 519-17TH ST., DENVER

**NO REGISTRATION FEE**

Sponsored by Colorado State Medical Society and Colorado Division, American Cancer Society

**YOUR CUE FOR INFANT FEEDING**

**QUALITY  
ECONOMY  
UNIFORMITY  
CONVENIENCE**

**NORMAL DILUTION**  
**Dextrogen® + Water = Formula**

1 fl. oz. (50 Cals.)	1½ fl. ozs.	2½ fl. ozs. (20 Cal. per fl. oz.)
-------------------------	-------------	---

**Dextrogen**  
REG. U.S. PAT. OFF.  
**NESTLÉ**  
COWS' MILK MODIFIED  
WITH  
DEXTRINS, MALTOSE & DEXTROSE  
AND WITH THE ADDITION OF A SMALL AMOUNT OF  
SODIUM PHOSPHATE AND IRON SACCHARATE  
EVAPORATED  
HOMOGENIZED  
STERILIZED  
EQUIVALENT TO 12.8 FLUID OUNCES  
PREPARED BY  
THE NESTLÉ COMPANY, INC., NEW YORK, U.S.A.

ACCEPTED  
COUNCIL ON  
FOODS AND  
NUTRITION  
MEDICAL ASSOCIATION

ADVERTISED TO THE MEDICAL PROFESSION ONLY.



the basic principles involved in electrocardiography. He emphasizes the importance of understanding these principles clearly before a consideration of clinical electrocardiography is undertaken.

By means of the concept of the electrical dipole he illustrates by simple diagram and lucid discussion, the recordings of action currents in a single muscle fibre, in more complex muscle structures, and finally in the living patient's heart.

The sections dealing with clinical electrocardiography stress interpretation based on fundamental principles rather than on a memory of so-called classical "patterns" of heart disease. Serial tracings together with case summaries are used liberally to illustrate the abnormalities encountered in the various types of heart disease. Studies of the standard limb leads are discussed in such a manner as to dispel any aura of mystery which may have surrounded these innovations in the reader's mind.

The complete lack of bibliography, and the omission of lengthy discussion of controversial matter lends to the continuity of thought and clearness of presentation. This book is probably one of the best of recent works on the subject for the student or for the practitioner who desires a more complete knowledge of electrocardiography.—*M.S.A.*

\* \* \*

*Primer of Allergy.* By Warren T. Vaughan and J. Harvey Black. Published by C. V. Mosby Company, St. Louis. 175 pages, 25 illustrations. Price \$3.50.

This small primer, now in its third edition, has been designed primarily for orientation and instruction of the allergic patient. In accurate, direct, and simple manner the principles and background of allergic illnesses and customary approaches to their diagnosis and management are outlined. The text is written in a humorous vein and amusingly illustrated with cartoons. The purpose of the book is to educate the patient so that his ability to cooperate with his physician intelligently is increased and unnecessary draining of the doctor's time avoided. Particularly of interest are the dietary lists and food tables and the general instructions for management of various forms of allergic manifestation, present in the final chapters.—*P.G.K.*

\* \* \*

*Proceedings of the First Clinical ACTH Conference.* Edited by John R. Mote, M.D. Published by the Blakiston Company, Philadelphia. 624 pages, 414 illustrations. Price \$5.50.

No more exciting event has occurred in medicine than the relatively recent realization of the profound influence of the adrenal cortex in practically every stress or disease process experienced by the human

body. The isolation of pituitary adrenocorticotrophin (ACTH) has permitted a study of the adrenal hormones' effect on many metabolic processes and in many disease states.

The tremendous stimulus given to these studies by Hench's report of the effect of cortisone on rheumatoid arthritis (May 1949) led to various angles of attack on the problem, and the Armour Laboratories, who supplied the ACTH for much of the work, sponsored the first ACTH conference in order that the various investigators might exchange their information. This book represents a "...status report of the projects in progress at the time (October 1949) and in no case are any of the results presented to be considered finally valid or conclusive."

The book contains a tremendous amount of data on the metabolic effects of the hormone, being thus of primary interest to the investigator. The clinical studies are extremely interesting but much too preliminary for evaluation in proper perspective. For those interested in the fundamental experiments on the physiology of the adrenal cortex and those interested in following the progress of this newest field in medicine, the book is highly recommended. For the busy practitioner, the understanding of the adrenal cortex is also of great importance, but more seasoned and complete information is already available in current journals.—*H.S.*

\* \* \*

*Sexual Deviations.* By Louis S. London, M.D., and Frank S. Caprio, M.D. Published by the Linacre Press, Washington, D.C. 702 pages. Price \$10.

The recognition, differential diagnosis, and treatment of a sexual deviate whether he comes to the attention of the physician primarily because of his sexual abnormality, because of other psychiatric symptoms, or because of psychosomatic manifestations, depends upon an understanding of the etiology and psychogenesis of such conditions. An attempt to clarify this matter and to apply psychoanalytic theories to the study and treatment of such cases is made in this book. Although some space is devoted to general discussions of the problem, the major portion of the book consists of excerpts from case histories and psychotherapeutic sessions. The book is an ambitious and worthwhile attack upon the problem but it has some rather serious faults.

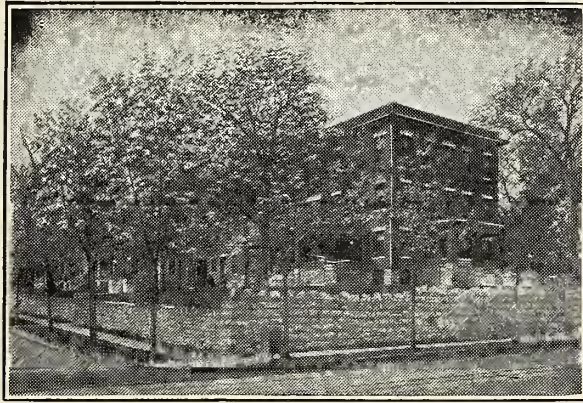
The material given on the cases is never complete and is frequently insufficient to establish the correctness of the diagnostic and therapeutic interpretations made. One must take a good many formulations "on faith." This is perhaps justifiable in view of the wide scope of the work and the fact that more complete material would make the book unnecessarily long. The book does not offer suffi-

# THE MAJOR CLINIC ASSOCIATION

3100 EUCLID AVENUE

KANSAS CITY, MISSOURI

A Well  
Equipped  
Institution  
for the  
Nervous and  
Mental  
Diseases and  
Alcohol  
Drug and  
Tobacco  
Addictions



Beautiful  
Location  
Large,  
Well Shaded  
Grounds  
Spacious  
Porches,  
All Modern  
Methods for  
Restoring  
Patients to a  
Normal  
Condition

HERMON S. MAJOR, M.D.  
*Medical Director*

HERMON S. MAJOR, JR.  
*Business Manager*

# dorestro

ESTROGENIC SUBSTANCES  
(WATER-INSOLUBLE)

the name which signifies

- **CONTROL**
- **UNIFORMITY**
- **MANUFACTURING  
EXCELLENCE**

COUNCIL ACCEPTED

# Dorsey

THE SMITH-DORSEY COMPANY • LINCOLN, NEBRASKA  
Branches at Los Angeles and Dallas  
MANUFACTURERS OF FINE PHARMACEUTICALS SINCE 1908



## Estrogenic Substances In Persic Oil

- #221, 1 cc... 5,000 Units
- #226, 1 cc... 10,000 Units
- #227, 10 cc... 10,000 Units
- #228, 1 cc... 20,000 Units
- #229, 10 cc... 20,000 Units

## Estrogenic Substances Aqueous Suspension

- #270, 10 cc... 50,000 Units
- #247, 10 cc... 20,000 Units
- #252, 1 cc... 20,000 Units
- #272, 1 cc... 10,000 Units
- #267, 10 cc... 10,000 Units



ciently detailed discussions of applied therapy to be of much help to the general practitioner or general psychiatrist in the management of such cases though it might be useful to a psychoanalyst with an especial interest in the paraphilias. The therapeutic notes are quite technical, highly compressed, and often open to question.

Despite its faults this book is readable and interesting, and it challenges the reader to try for a better understanding and more successful treatment of the sexual deviate.—M.T.E.

\* \* \*

*The Salt Free Diet Cook Book.* By Emil G. Conason, M.D., and Ella Metz, Dietitian. Published by Lear Publishers, New York. 137 pages. Price \$3.00.

This compilation of more than 50 salt-restricted menus with over 100 recipes suggests a variety of palatable dishes for the person who must follow a low salt diet for a long period of time.

The menus are in groups of 10, each group providing a specified amount of sodium ranging from below 350 milligrams to 900-1000 milligrams daily. Most menus provide 1800-2200 calories; the reducing menus contain 1200 calories.

The name of the book is misleading in two ways. It is not a book, as the name implies, to be handed out indiscriminately to patients on low salt diets or to be sold in public stores. It does not give recipes for "salt free" foods; they are for foods without added salt.

The book can be useful, however, if a doctor or dietitian takes the time to tell the patient how to use the 10 daily menus that provide the amount of sodium the patient requires. The patient will need to be someone experienced in following detailed directions. He must be able to afford the variety of foods suggested. He will need to be taught how to make substitutions when seasonal foods, as blueberries or asparagus, are not available.

The introduction contains for the physician an excellent summary of trends in salt restricted diets. Authorities are quoted and articles in medical journals are listed.

The recipes are useful in a hospital or home because they do add variety to the low salt diet. Excellent suggestions are given for adding flavor to uninteresting food, but the menus would be expensive to follow as they are written, especially when certain foods need to be purchased for just one member of the family. The amounts of certain items are not always specified, as "a bit of bay leaves" or "continue adding water until the pastry gathers around the fork." The yield in servings is not given.

In looking at the tables giving salt content of 600 basic foods, the casual observer is apt to interpret

A, B, C, and D as values for vitamins. The introduction to the tables explains that A, B, C, and D are different sources for sodium figures, but not everyone will read the introduction first. The caloric values given for many items of foods appear to be lower than most authorities give. One questions the use of these menu outlines for restrictions on calories, carbohydrate, protein, and fats.

An index of recipes provides an easy guide to finding them in the book.

*The Salt Free Diet Cook Book* furnishes acceptable methods of preparing ordinary low salt diets but is not recommended for low calorie or diabetic diets. The menu rather than a meal plan is offered; the patient is thus not given any choice. A menu cannot substitute for a meal plan made out for the individual patient.

\* \* \*

*Coagulation, Thrombosis, and Dicumarol.* By Shapiro and Weiner. Published by Brooklyn Medical Press, Inc. Price \$5.50.

The text is a review of the current theoretical and practical knowledge concerning thrombosis, hemorrhage, and anticoagulant therapy. Because of the close cooperation necessary between the clinician and the laboratory, the subject is treated as a whole and not sharply divided into clinical and laboratory sections. Subjects discussed are the nature and function of the clotting process, the relationship of clotting to hemostasis, diseases with intravascular thrombosis, and treatment of thrombotic disease including a thorough discussion of all aspects of dicumarol therapy. There is a brief appendix consisting of a description of laboratory methods used in the study of blood coagulation. The text is well written and timely, as anticoagulant therapy is now an accepted part of our therapeutic regimen.—S.J.W.

### American Congress of Physical Medicine

The 28th annual scientific and clinical session of the American Congress of Physical Medicine will be held August 28-September 1, inclusive, at the Hotel Statler, Boston, with instruction seminars during the first four days. All sessions will be open to members of the medical profession in good standing with the American Medical Association.

Seminars will be offered in two groups. One set of 10 lectures will consist of basic subjects, with attendance limited to physicians. Another set of 10 lectures will be general in character, open to physicians and therapists who are registered with the American Registry of Physical Therapy Technicians. Complete information may be secured from the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago.

Medical and surgical supplies for Kansas doctors of Medicine and Hospitals

# Munns Medical Supply Co., Inc.

512 Kansas Avenue  
Topeka, Kansas

456 New Brotherhood Building  
Kansas City, Kans.

## Zemmer...

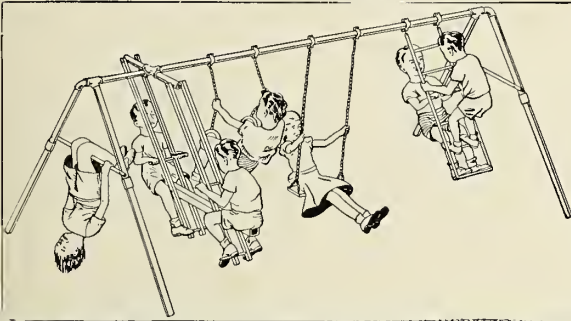
### PHARMACEUTICALS

A complete line of laboratory controlled  
ethical pharmaceuticals. Chemists to the  
Medical Profession since 1903.

KA-5-50

THE ZEMMER CO., Pittsburgh 13, Pa.

## Play Safe With "Rex Playground Equipment"



Keep the children happy, healthy and entertained in their own back yard. Give them the invaluable privilege of companionship with other children, knowing they are safe and having fun in their own back yard.

Built strong and sturdy enough for the parents as well as the children to play on.

PHONE OR WRITE FOR BULLETINS

### REX SALES COMPANY

2735 N.W. 10th

Phone 92-2880

Oklahoma City 7, Okla.

## Deformity Appliances of Quality

Orthopedic and Surgical Appliances  
Artificial Limbs

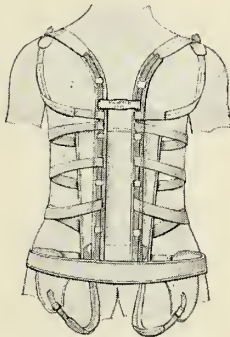
Trusses

Abdominal  
Supports

Elastic  
Hosiery

Foot  
Supports

Surgical  
Corsets



Taylor Back Brace

Made to Order  
In Our Own Factory

**P. W. HANICKE MFG. CO.**

1009 McGee St.

Victor 4750

KANSAS CITY, MO.

ACCIDENT • HOSPITAL • SICKNESS

## INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS  
EXCLUSIVELY



<b>\$5,000 accidental death</b>	<b>\$8.00</b>
\$25.00 weekly indemnity, accident and sickness	Quarterly
<b>\$10,000.00 accidental death</b>	<b>\$16.00</b>
\$50.00 weekly indemnity, accident and sickness	Quarterly
<b>\$15,000.00 accidental death</b>	<b>\$24.00</b>
\$75.00 weekly indemnity, accident and sickness	Quarterly
<b>\$20,000.00 accidental death</b>	<b>\$32.00</b>
\$100.00 weekly indemnity, accident and sickness	Quarterly
COST HAS NEVER EXCEEDED AMOUNTS SHOWN. ALSO HOSPITAL POLICIES FOR MEMBERS' WIVES AND CHILDREN AT SMALL ADDITIONAL COST	

85c out of each \$1.00 gross income used  
for members' benefits

\$3,700,000.00	\$16,000,000.00
Invested Assets	Paid for Claims

\$200,000.00 deposited with State of Nebraska for  
protection of our members

Disability need not be incurred in line of duty—benefits from  
the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION

PHYSICIANS HEALTH ASSOCIATION

48 years under the same management

400 FIRST NATIONAL BANK BLDG., OMAHA 2, NEBRASKA



### New Section in National Heart Institute

Establishment of a clinical section on general medicine and experimental therapeutics as a part of the research program of the National Heart Institute of the Public Health Service was announced recently. Dr. Luther L. Terry, chief of the Medical Service, U. S. Marine Hospital, Baltimore, will head the new section.

It will function as a clinic in the hospital, with approximately 60 beds devoted to the program. The section will form a nucleus for the clinical staff of the National Heart Institute at the new clinical center of the National Institutes of Health which will open in Bethesda, Maryland, in 1952.

Problems of hypertension will be given major emphasis. Drugs for the treatment of hypertension will be studied to determine therapeutic potentials, including the alkaloids of *Veratrum viride* and simpler synthetic compounds which have shown promise. The surgical procedure of sympathectomy will continue to be appraised as a method of treatment, with studies on basic physiological mechanisms differentiating hypertensive patients.

### American Journal of Proctology Published

The first issue of a new medical publication, the American Journal of Proctology, was published recently by the International Academy of Proctology, 1819 Broadway, New York. It contains original articles on proctology and allied subjects, official proceedings of scientific sessions of the Academy, abstracts of current literature and book reviews.

Dr. Alfred J. Canton is editor of the publication, assisted by a committee composed of Dr. Earl J. Halligan, Dr. William Lieberman, Dr. Manuel G. Spiesman and Dr. Henry A. Springer. Mr. Daniel Weiss is serving as managing editor.

### Life Span Increases

Latest available statistics from the Federal Security Agency, based on 1948 death rates, show that the average length of life in the United States has reached a new high, 71 years for white women and 65.5 years for white men. The longevity of non-whites is lower, 62.5 years for women and 58.1 years for men. The difference in average length of life between men and women in the United States has steadily increased from less than three years in 1900 to 5½ years in 1948.

### Heart Grant to K. U.

A grant-in-aid of \$5,250 has been awarded the University of Kansas School of Medicine by the American Heart Association for studies on the influence on the heart of mineral deficiencies. Dr.

Mary C. Colglazier will direct the work. The grant is part of a total of \$220,000 awarded to 46 universities, hospitals, and laboratories and brings to \$400,000 the amount appropriated by the Association during the past year.

A booklet containing reviews of 225 medical motion pictures has been published by the Committee on Medical Motion Pictures of the American Medical Association and may be secured from the Order Department of the A.M.A. at 25 cents each. The reviews provide a brief description and an evaluation of pictures available for showing to the medical profession, with an index arranged according to subject matter.

## ANNOUNCEMENTS

June 26-30—Annual Session, American Medical Association, San Francisco, California.

July 19-20—Fourth Annual Rocky Mountain Cancer Conference, Denver, Colorado. No Registration Fee. Write Cancer Conference, 519 - 17th Street, Denver, for Hotel Reservations.

August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

### CLASSIFIED ADVERTISEMENTS

**FOR SALE**—Cardiotron, microscope and accessories, electric centrifuge, small incubator, x-ray machine and all accessories, new cystoscope, short wave diathermy, ultra violet lamp. Will sell cheap. Write the Journal 27-50.

**ENT.** Older man in Kansas City, Missouri, wants to take more time off; retire later. Share space, salary, salary-per cent or other suitable arrangements. Is associated with younger ophthalmologist. Complete details on request. Write the Journal 28-50.

**FOR SALE**—Large practice free to purchaser of modern equipment of physician retiring because of coronary attack. Office rent \$40 per month, five air-conditioned rooms. G.E. x-ray. Terms to right man. Write the Journal 29-50.

**FOR SALE**—X-ray machine, model 17-75, with fluoroscopic unit. Also electrocardiograph machine, model B. Write the Journal 21-50.

**VACATION SUBSTITUTE**—Will take doctor's practice during his vacation for three weeks starting June 17. Write the Journal 22-50.

**WANTED**—An internist and a pediatrician to join well trained group with fine equipment in town of 12,000. Excellent income. Write the Journal 23-50.

**FOR SALE**—Office equipment including diathermy, Alpine and infra red lamps, Sorensen suction and compressor, sterilizer (gas), scales, instruments, folding operating table and pad, medicines and medical books. Write the Journal 24-50.

**WANTED TO BUY.** Eye instruments, eye speculum, fixation forceps, ear speculum, nasal speculum, small ring curette, tongue depressors. Write the Journal 30-50.

**FOR SALE**—McKesson anesthetic machine, one year old. Four gas unit with cyclopropane and ether attachments. Has had very little use. Write the Journal 26-50.

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

JUNE, 1950

No. 6

## A Clinical Evaluation of Adrenal Cortical Function\*

Robert E. Bolinger, M.D.

Kansas City, Kansas

Formerly, the adrenal cortex was considered significant because of the role it assumed in the pathogenesis of Addison's disease,<sup>1</sup> Cushing's syndrome,<sup>2</sup> and the adreno-genital syndrome. More recently investigation is being directed toward establishing the significance of adrenal cortical function in general body economy and in various disease processes, since the isolation and synthesis of 28 steroid hormones from the adrenal cortex has provided a basis for such advances.<sup>3</sup>

However, the investigation of the physiological properties of these compounds has only begun, since one of the main obstacles to the clarification of this problem is the great difficulty in determining the amount and types of steroid compounds produced in any given condition. The chemical methods involve long, complicated, and expensive extracting procedures rendering them impractical for extensive clinical investigation. Therefore, one is forced to rely on procedures which depend upon the effect of the steroid hormones in question rather than upon a direct chemical determination of the substance. This functional approach to the problem is, of course, subject to the added error of certain assumptions involving the responsiveness of the target organ and other intermediate steps, but consists essentially in the production of an adrenal insufficiency and the correction of the physiological alterations with the various steroid hormones. The physiological alterations which must be corrected following adrenalectomy include: (1) marked shortening of the life span,<sup>4, 5, 6, 7</sup> (2) diminution in work capacity,<sup>8, 9, 10</sup> (3) hypotension with ultimate circulatory collapse<sup>11</sup> and hemoconcentration, (4) decrease of maximum metabolic levels to those of basal metabolism,<sup>12</sup> (5) hypoglycemia and diminution in liver glycogen,<sup>13, 14</sup> (6) an accumulation of nitrogenous products in the blood,<sup>15</sup> (7) loss of sodium, retention of potassium,<sup>16</sup> and the development of an uncompensated nonvolatile acidosis,<sup>17</sup> (8) hy-

perplasia of the thymus and lymphatic structures of the body.<sup>18</sup>

Many of the steroid compounds have been assayed to determine their potency in reversing these effects of adrenal insufficiency. As a result of this the compounds have been divided into three functional groups. The first of these groups includes steroids which correct the hypoglycemia and glycogen loss resulting from adrenal cortical insufficiency. This group is characterized by steroids with an oxygen atom in the 11th position and includes compounds B, A, F, and E of Kendall which have varying potency in this respect. This correction in glucose metabolism is effected by the production of carbohydrates from protein,<sup>14</sup> and this group of steroids has been termed the S group or 11-oxysteroid group. The second group includes steroids concerned with the alteration in mineral and water metabolism, and includes desoxycorticosterone acetate as the most potent known representative. The hemoconcentration, hypotension, and shock manifestations of adrenal insufficiency are largely corrected by the members of this group while there is a certain amount of overlapping in function with other groups.<sup>20</sup> The third group of steroids is androgenic and has an effect which promotes nitrogen storage and growth, and for this reason has been termed the N group of hormones.<sup>21</sup> Androgens other than testosterone are produced in the adrenal cortex.

Thus a clinical evaluation of adrenal function in any patient must include tests which give information regarding the main functional groups of steroids. It is not the purpose of this paper to evaluate all of the known methods of adrenal testing, but rather to point out a convenient routine designed to bring out these functions.

### Procedure

The following procedure has been found applicable to both in and out patients, and has been adopted for these studies after trying several less satisfactory routines.

\* From the Department of Internal Medicine, University of Kansas School of Medicine.



1. The patient is instructed to go without food or fluids after 6:00 P.M. the evening before the test.

2. All urine is collected from 10:30 P.M. until 7:30 A.M., its volume measured, and chloride, urea, creatinine, uric acid, and 17-ketosteroids determined.

3. Blood is drawn at 8:00 A.M. and urea, chlorides, circulating eosinophils (using phloxine glycol stain), and glutathione determined.

4. From 8:30 until 9:15 A.M. the patient drinks 9 cc. of water per pound of body weight. Urine specimens are collected at 9:30, 10:30, 11:30, and 12:30 and the volumes measured. Creatinine, uric acid, and 17-ketosteroid determinations are made on the 9:30 and 12:30 collections.

5. Adrenalin, 1-1000 solution, .3 cc. is given at 8:30.

6. Blood is drawn at 12:30 for glutathione and eosinophil determinations.

From the data collected the values described in the following sections were derived.

For the 17-ketosteroid determinations small 10-20 cc. volumes of urine were used. Hydrolysis with HCl over the steam bath was used and the steroids extracted with ether, washed with sodium bicarbonate and potassium hydroxide solutions and the Zimmerman reaction, according to the method of Haltorf and Koch, applied to the residue. The eosinophiles were counted directly in the counting chamber using phloxine glycol stain. Uric acid was determined by the method of Benedict and Franke, and creatinine by the method of Folin. Glutathione was determined by the method of Benedict and Gottschall.

#### Status of Protein and Carbohydrate Metabolism

Several methods are available for the evaluation of these functions. The lipid extract of the urine from a subject may be assayed for its potency in causing glycogen storage in the liver of the adrenalectomized mouse.<sup>26</sup> This method requires a completely equipped animal laboratory and is not applicable for routine use. Procedures have been devised<sup>27</sup> for the chemical determination of lipid soluble reducing substances in the

urine, since these substances reflect the excretion of the steroids of this group.

It has been demonstrated<sup>28, 29</sup> that the steroids of this group produce certain hematologic changes including a decrease in eosinophiles,<sup>30</sup> and increase in the neutrophilic polymorphonuclears. Thorne et al,<sup>31</sup> demonstrated that adrenocorticotrophic hormone (ACTH) stimulated the adrenal cortex to secrete its hormones and in turn produce the hematologic changes. The change in the eosinophile count, as determined by direct counting methods, was found to be the most significant. A drop of 50 per cent in the circulating eosinophile count was considered evidence of normal adrenal function in this respect. Long<sup>32</sup> showed that adrenalin provoked the pituitary to produce adrenocorticotrophic hormone and in turn produce the same hematologic changes as was produced by the adrenocorticotrophic hormone itself.<sup>33</sup>

Due to the difficulty in obtaining adrenocorticotrophic hormone preparations this adrenalin test was used in these studies. A fairly small dose of adrenalin (.3 mg.) was used on the assumption that minimal stimulation would tend to bring out greater or lesser degrees of insufficiency. A period of four hours following the injection of the adrenalin was necessary before the maximal response was obtained. This test, of course, has the disadvantage of not distinguishing between pituitary and adrenal function which is, however, preferable for a screening proce-

CASE	CLINICAL DIAGNOSIS	EO INIT	% CHANGE	SUMMARY OF CASES				WF	17-KS NIGHT	17-KS AM	17-KS NOON
				U/C INIT	% CHANGE	GSH INIT	GSH AFTER				
WM68	Bronchiectasis	102	-60	.125	+8			18	5.64	9.04	13.44
CF54	Osteoarthritis	72	-12	.327	+30				8.35	9.25	
CF35	Latent syphilis	50	-12	.320	+25				8.95	6.25	17.62
WF71	Osteoporosis	135	-34	.470	+15				8.39	5.55	9.26
CF54	Depression	168	-19	.250	+20				8.70	6.90	
WF30	Obesity	178	-73	.390	+32				13.64	19.40	17.00
WF49	Anxiety state	194	-53	.330	+46				27.50	19.50	36.20
WM31	Anxiety state	93	-73	.167	+28			422	8.60	12.80	6.70
CM42	Normal	263	-62	.700	+56				10.20	13.30	11.90
WF29	Anxiety state	322	-10	.340	+8			163	8.70	6.10	9.34
CF18	Pelvic infection	51	-50	.231	-20			55	14.55	10.00	11.55
CF49	Infected dermatitis	85	-53	.610	-50			47	5.06	7.55	6.18
WF19	Pregnant 5 mos.	133	-73	.380	+13			112	11.85	17.15	15.35
WF42	Rheumatoid arthritis	231	-70	.250	+8			137	6.80	8.41	16.10
WF25	Normal	118	-85	.137	+46			128	15.50	28.30	22.90
WF39	Anxiety state	41	-22	.268	+7	41	40	44	7.80	10.00	10.00
WF30	Normal	350	-61	.133	+121	36	29	163	8.84	8.15	8.18
CM47	Peptic ulcer	272	-78	.318	-19	28	26	44	11.35	10.40	16.90
WF50	Anorexia nervosa	109	-24	.374	+4	30	25	84	7.26	6.77	6.72
WF19	Pneumonia (conv)	60	-55	.380	+12	30	31	49	15.20	17.64	40.40
WF68	Gout	1180	-58	.403	+17	36	33	20	4.77	9.44	18.10
CM42	Lung abscess	542	-12	.318	-8	25	20	22	3.75	3.33	3.44*
CM30	Toxic goiter	15	-15	.250	+4			50	4.86	6.04	3.83*
WM28	Normal	402	-14	.252	+16	35	33	113	7.95	9.45	9.88*
CM45	Peptic ulcer	173	-27	.350	-16	25	26	107	4.95	3.35	1.13*
CM31	Peptic ulcer	118	-16	.262	-5	21	27	108	5.15	6.23	8.13*
WF19	Normal	423	-67	.303	+23	48	45	58	5.98	10.70	6.96*
WF68	Ca of cervix	222	-58	.423	-3	31	26		4.23	4.82	3.98*
WF30	Normal	71	-65	.206	+68	37	31	132	14.10	12.50	16.10*
CM30	Peptic ulcer	72	-50	.291	-10	30	24	55	5.57	4.13	4.80*
WF49	Amyotrophic l.s.	200	-48	.435	-10	33	37	504	8.25	6.45	5.35*
WF59	Adrenal insufficiency	76	0	.325	+23	46	47	30	4.40	3.60	5.20*
WF18	Dermatomyositis	22	-59	.385	+52	36	32	20	4.64	5.45	5.00*
WF49	Rheumatoid arthritis	400	-69	.266	+15	42	42	8	12.20	11.50	11.60
WF22	Normal	126	-53	.122	+16	28	29	58	10.00	11.30	16.40
WF44	Adrenal insufficiency	179	-13	.250	0	39	39	21	7.75	10.50	7.00
CF47	Diabetes, hirsutism	45	-64	.311	+8	31	31		4.55	8.80	5.30*
WF50	Normal	361	-19	.443	-22	40	46	24	7.50	6.20	8.50*
WF23	Anorexia nervosa	305	-74	.303	+33	36	24	65	4.55	5.00	*
WF45	Cirrhosis	150	-55	.374	-57	28	24	15	2.63	3.29	4.62*
WF33	Adrenal insufficiency	338	+30			20	23		1.32	24 hr	*

\* Chloroform extracted; EO Init, initial eosinophil count; GSH, blood glutathione; WF, Wenker-Rover water function test; U/C, uric acid-creatinine ratio.

Figure 1

ture since it is quite likely that adrenalin represents the physiological instigator of the pituitary-adrenal mechanism.

Since this particular group of hormones causes an increased nitrogen excretion, changes in this may be an indication of activity of the S group of hormones. The urinary uric acid is normally increased following adrenal stimulation by adrenalin or adrenocorticotrophic hormone and, therefore, represents another method of measuring the activity of the S group of hormones. Again, there is a latent period of about four hours between the stimulation and the appearance of maximum effects. The changes in the uric acid may be expressed as excretion of uric acid per hour or more conveniently as a uric acid creatinine ratio since creatinine is excreted at a fairly constant rate; therefore, serving as a base line for changes in the excretion of other substances.

The eosinophile response before and after adrenalin was determined in 41 cases. The average drop in the count per cubic millimeter was 48 per cent. (Figure 1) One case diagnosed Addison's disease showed a rise and another diagnosed adrenal insufficiency showed no change. The per cent of drop did not appear to be correlated with the initial number of cells either in the low or high ranges. No particular relation could be noted between the initial level and the type of disease, except that most of the very low levels were associated with active inflammatory disease. It is questionable whether this low level is due to bone marrow depression or to some residual adrenal effect, but theoretically either factor might play a part.

The increase in the urinary uric acid-creatinine ratio was determined in 40 cases. The average rise in the ratio was 22 per cent in 26 cases and no rise or an actual fall occurred in 14 cases. No correlation could be made between the magnitude of change in the uric acid-creatinine ratio and the change in the circulating eosinophiles. Both of these effects are thought to be the result of action of the 11-oxy-steroid class of compounds but must involve other variables at the end organ. Higher doses of adrenalin might give rise to greater uric acid increases but still would not explain this difference in response. For practical purposes, responses in which the uric acid decreases, are considered as no change. The change in the eosinophiles would seem to be a more reliable index of S hormone function than the change in the uric acid. However, the latter was included in this study in order to have some measure of the changes in nitrogen metabolism. Conn<sup>34</sup> pointed out the depressing effect of ACTH on the blood glutathione levels. Glutathione determinations were made before the administration of adrenalin

and four hours after this. This procedure was carried out on 24 patients. The average fasting level was 34 mg. per 100 cc. of blood. A decrease in the level was noted in 17 of the patients at the end of four hours and the average decrease was 3.6 mg. One patient showed no change while seven patients showed an increase. The three cases of adrenal insufficiency were included among those showing no change or an increase. Thus it would appear that the change in the glutathione is of some significance in the evaluation of adrenal function. No correlation could be found between the fasting glutathione levels and the value of the water function test, change in uric acid, or change in the eosinophiles. At this time it is difficult to ascribe the changes in glutathione to any one of the groups of adrenal steroids but evidence is suggestive so far that this effect is related to carbohydrate metabolism so for the present it is tentatively considered as a measure of S hormone or 11-oxy-steroid function.

#### Status of Water and Electrolyte Function<sup>25</sup>

Several procedures have been used in an attempt to evaluate this particular function since no satisfactory chemical or animal assay method is available. The Cutler-Power-Wilder Test based upon the failure of the nonfunctioning adrenal cortex to effect the retention of sodium and chloride during a period of salt deprivation is much too lengthy for routine use.<sup>22</sup> Furthermore, it evaluates largely the electrolyte changes and does not render information regarding any change in water function. The Robinson-Power-Kepler test<sup>23</sup> has been selected because of its convenience, its established value in the diagnosis of Addison's disease, and because it gives evidence both of water and electrolyte function. The test has been carried out in these studies according to the original procedure, except that both parts have been carried out routinely in each case and the calculations made to establish the value of the index A. It was thought that perhaps the magnitude of this index could be correlated with the other functions of the adrenal gland measured in these studies.

$$A = \frac{\text{urinary urea}}{\text{plasma urea}} \times \frac{\text{plasma Cl}}{\text{urinary Cl}} \times \frac{\text{largest day volume}}{\text{night volume}}$$

Another procedure designed to measure the electrolyte function of the adrenal cortex is the determination of the sweat chloride.<sup>24</sup> This procedure has not been readily adaptable to routine work because of lack of a reliable method for producing and collecting the sweat secretion.

Results of the "water function" test are presented for 29 cases. The average value for this was 72. All of the patients having values below this average were cases of organic disease with one exception in which there was some question about



the urine collection. It is noted that all of the normals with this one exception fall into the group having values above this average. Six of the cases showed values below 30, which is in the range where Addison's disease cannot be excluded. The diagnoses in these cases are: severe active rheumatoid arthritis, advanced bronchiectasis with pneumonitis, gouty arthritis, dermatomyositis, lung abscess, and adrenal insufficiency. None of these cases showed any evidence of kidney disease clinically. Thus there is noted a definite tendency for the value of the water function test to reflect the extent of the disease process with active inflammatory disease showing the low values along with clinical adrenal insufficiency.

#### Status of the Androgenic Function

This function may be evaluated by determination of androgen excretion in the urine using animal assay. It may be evaluated chemically by determination of the urinary 17-ketosteroids. For convenience a modification of the micro method described by Drekter et al<sup>35</sup> has been used. Rather than collecting 24-hour urine specimens, the 17-ketosteroid-creatinine ratio has been used, thus avoiding the difficulties and inaccuracies of timed urine collections. A normal diurnal variation for 17-ketosteroids has been reported with levels lowest during the night, highest shortly after awakening, and decreasing then throughout the day. This diurnal variation has been found to occur in a statistically significant group of normals,<sup>36</sup> but is found to be absent in patients with mental disturbances. Therefore, 17-ketosteroid creatinine ratios were determined on specimens collected at night, on arising, and at noon. Normally the ratio of the night 17-ketosteroid to the morning 17-ketosteroid should be less than 1.00. Albright<sup>21</sup> postulated that the androgenic function of the adrenal cortex was under different control than the other metabolic functions. However, Thorne<sup>37</sup> has shown that 17-ketosteroid excretion is increased following the administration of ACTH. Therefore, the ratio of 17-ketosteroids excreted in the urine four hours following adrenal stimulation to that of the amount found in the night collections of urine should give evidence of 17-ketosteroid response to adrenalin. This ratio should then normally be greater than one.

Two different methods were used, one using the Zimmerman reaction for total neutral fraction, and the other applying a chloroform extraction<sup>38</sup> of the chromogenic product of the Zimmerman reaction to exclude interfering chromogens. For the first method the average value was 11.00 and for the second 7.95 (expressed as micrograms of steroid per milligram of creatinine). Sixteen of the patients showed night-morning ratios above 1.00, while 20 showed ratios

below this. Ratios were also compared between morning and noon specimens after adrenalin, but as many showed a rise in the 17-ketosteroid excretion as showed a fall. Therefore, no significance could be attached to this and it could not be said that adrenalin at this dosage plays any part in elevation of ketosteroid excretion. Since values normally fall between morning and noon it is possible that the adrenalin prevented a greater decrease in rate of excretion; however, that could not be determined from these studies.

#### Adrenal Function Profile

The functions of the adrenal cortex are seen to be many and varied and frequently there is little correlation between the changes as determined by the different methods of testing. The methods outlined above are designed to give evidence of the status of function in the spheres of carbohydrate and protein metabolism, mineral metabolism, and androgen production. For convenience the results of the testing are arranged in the form of a profile so that the given value can be indicated by drawing a line at the particular location on the graph. The profile is so arranged that the *average* values, (Figure 2), of the different determinations fall along a central line, while values above the line are in the direction of increased adrenal cortical function and values below the line are in the direction of decreased function. An attempt was made to set up each column

ADRENAL FUNCTION PROFILE

Eo	CHO		GSH	WF	MINERAL		ANDROGEN		
	U/C	100			Na	K	17KS	17KS*	N/AM
100	95		-7	200			36.00	22.00	
95	90			190			34.00	21.00	
90	85			180			32.00	20.00	
85	80			170			30.00	19.00	
80	75		-6	160			28.00	18.00	
75	70			150			26.00	17.00	
70	65			140			24.00	16.00	
65	60			130			22.00	15.00	.20
60	55		-5	120			20.00	14.00	
55	50			110	160	3	18.00	13.00	.40
50	45			100			16.00	12.00	
45	40			90	150	4	14.00	11.00	.60
40	35		-4	80			12.00	10.00	
35	30			70	140	5	10.00	9.00	.80
30	25			60			8.00	7.00	
25	20		-3	50	130	6	6.00	6.00	1.00
20	15			40			4.00	5.00	
15	10			30	120	7	2.00	4.00	1.20
10	5		-2	20			0.00	3.00	
5	0			10	110	8		2.00	1.40
0				0	100			1.00	
			-1					0.00	1.60

Figure 2

#### Abbreviations:

Eo	Percent decrease in circulating eosinophils.
U/C	Percent increase in the uric acid creatine ratio.
GSH	Decrease in blood glutathione.
WF	Results of the water function test.
Na	Serum sodium (milliequivalents).
K	Serum potassium (milliequivalents).
17KS	17-ketosteroid/creatinine. (Unextracted)
17KS*	17-ketosteroid/creatinine. (Extracted)
N/AM	Ratio of night 17-ketosteroid excretion to morning excretion.

of figures so that comparable values for the different tests would fall at about the same level from the "average" line. However, this could not be done accurately because of the lack of correlation between the magnitude of variation of the different tests. The criteria of a base line for "normal" function could not be established from these studies largely because of the difficulty in obtaining subjects who are definitely normal, since such non-specific things as emotional and nutritional disturbances are known to produce changes in adrenal cortical function.

An examination of the results in this series of cases shows that one or several of the function tests may be normal and several others quite abnormal. Therefore, for a diagnosis of true Addison's disease it is necessary to have grossly diminished function in all spheres. The term adrenal insufficiency becomes rather ambiguous in the light of these studies and probably should be qualified by a statement as to the type or types of insufficiency present. Again such a terminology is subject to severe criticism because most of the adrenal cortical function tests are tests of response and not tests of actual adrenal function and information is wanting in most cases when an attempt is made to distinguish between steroid hormone production by the adrenal and end organ response on the other hand.

In Figure 3 examples of rather typical cases are shown. Figure 3A shows the profile of a clinically normal person. The levels of function are indicated in each category and it is seen that they all fall near the "average" line. (Sodium and potassium determinations have not been included in the routine examinations, so are not marked.) Figure 3B shows the values from a patient diagnosed Addison's disease, and it is seen that most of the values are well below the average line. Figure 3C shows an example of dissociated response with good response in the first two groups and poor response for the androgenic group. This last patient has been diagnosed and treated for cirrhosis of the liver.

#### Summary and Conclusions\*

1. An evaluation of pituitary adrenal function in the spheres of carbohydrate and protein metabolism, water and electrolyte metabolism, and androgen production is presented from 41 cases, including normal and disease states.

2. Blood glutathione decreases significantly after the injection of adrenalin. This decrease does not occur in the presence of adrenal insufficiency.

3. Rather striking deviations are noted in the results of different types of tests in the various disease states. In a true Addison's disease depression of all of the functions is recorded.

\* Note: These studies were carried out with the technical assistance of B. J. Slinker, A.B., M.T.

CHO		MINERAL				ANDROGEN		
EG	U/C	GSH	WP	Na	K	17KS	17KS <sup>2</sup>	N/AM
	100							
	95					36.00	22.00	
	90	-7	200			34.00	21.00	
	85		190			32.00	20.00	
	80		180			30.00	19.00	
100	75		170			28.00	18.00	
	95	-6	160			26.00	17.00	
	90		150			24.00	16.00	
	85		140			22.00	15.00	.20
	80		130		2	20.00	14.00	
	75	-5	120			18.00	13.00	.40
	70		110	160	3	16.00	12.00	
	65		100			14.00	11.00	.60
	60		90	150	4	12.00	10.00	
	55	-4	80			10.00	8.00	.80
	50		70	140	5	8.00	7.00	
45	20		60			6.00	6.00	1.00
40	15	-3	50	130	6	4.00	5.00	
35	10		40			2.00	4.00	1.20
30	5		30	120	7	0.00	3.00	
25	0	-2	20				2.00	1.40
20			10	110	8		1.00	
15			0				0.00	1.60
10		-1		100				
5								
0								

Figure 3A

CHO		MINERAL				ANDROGEN		
EG	U/C	GSH	WP	Na	K	17KS	17KS <sup>2</sup>	N/AM
	100							
	95					36.00	22.00	
	90	-7	200			34.00	21.00	
	85		190			32.00	20.00	
	80		180			30.00	19.00	
100	75		170			28.00	18.00	
	95	-6	160			26.00	17.00	
	90		150			24.00	16.00	
	85		140			22.00	15.00	.20
	80		130		2	20.00	14.00	
	75	-5	120			18.00	13.00	.40
	70		110	160	3	16.00	12.00	
	65		100			14.00	11.00	.60
	60		90	150	4	12.00	10.00	
	55	-4	80			10.00	8.00	.80
	50		70	140	5	8.00	7.00	
45	20		60			6.00	6.00	1.00
40	15	-3	50	130	6	4.00	5.00	
35	10		40			2.00	4.00	1.20
30	5		30	120	7	0.00	3.00	
25	0	-2	20				2.00	1.40
20			10	110	8		1.00	
15			0				0.00	1.60
10		-1		100				
5								
0								

Figure 3B

CHO		MINERAL				ANDROGEN		
EG	U/C	GSH	WP	Na	K	17KS	17KS <sup>2</sup>	N/AM
	100							
	95					36.00	22.00	
	90	-7	200			34.00	21.00	
	85		190			32.00	20.00	
	80		180			30.00	19.00	
100	75		170			28.00	18.00	
	95	-6	160			26.00	17.00	
	90		150			24.00	16.00	
	85		140			22.00	15.00	.20
	80		130		2	20.00	14.00	
	75	-5	120			18.00	13.00	.40
	70		110	160	3	16.00	12.00	
	65		100			14.00	11.00	.60
	60		90	150	4	12.00	10.00	
	55	-4	80			10.00	8.00	.80
	50		70	140	5	8.00	7.00	
45	20		60			6.00	6.00	1.00
40	15	-3	50	130	6	4.00	5.00	
35	10		40			2.00	4.00	1.20
30	5		30	120	7	0.00	3.00	
25	0	-2	20				2.00	1.40
20			10	110	8		1.00	
15			0				0.00	1.60
10		-1		100				
5								
0								

Figure 3C



4. A convenient method of tabulating the results of the different tests is presented along with typical examples from the series of cases.

5. It is concluded that an evaluation of adrenal function can not be made with any single test.

### Bibliography

1. Major, Ralph H.: *Classic Description of Disease*. Springfield, Illinois: Charles C. Thomas, 1932, pp. 249.
2. Albright, F.: Cushing's Syndrome; its pathological physiology, its relationship to adreno-genital syndrome, and its connection with problem of reaction of body to injurious agents. *Harvey Lect.* (1942-1943), 38:123-186, 1943.
3. Reichstein, T., and Shoppee, C. W.: The hormones of the adrenal cortex. *Vitamins and Hormones*, 1:345, 1943.
4. Jaffe, H. L.: The effects of bilateral suprarenalectomy on the life of rats. *Am. J. Physiol.* 78:453, 1926.
5. Harrison, F. G., and Pote, H. H.: Postoperative adrenal insufficiency. *J. Urol.* 45:315, 1941.
6. Stewart, G. N., and Ragoff, J. M.: Studies on adrenal insufficiency. *Proc. Soc. Exper. Biol. and Med.* 22:394, 1924-25.
7. Stewart, G. N., and Ragoff, J. M.: Studies on adrenal insufficiency. *Am. J. Physiol.* 78:683, 1926.
8. Hoskins, R. G.: Studies on vigor; XVI Endocrine factors in vigor. *Endocrinology* 11:97, 1927.
9. Gans, H. M., and Miley, H. H.: Studies on vigor; ergographic studies on adrenalectomized animals. *Am. J. Physiol.* 82:1, 1927.
10. Ingle, D. J.: Work capacity of adrenalectomized rat treated with cortin. *Am. J. Physiol.* 116:622, 1936.
11. Rogoff, J. M., and Dominguez, R.: Blood pressure following adrenalectomy. *Am. J. Physiol.* 83:84, 1927.
12. Giaja, J. and Chahovitch, X.: Le metabolisme de sommet et les capsules surrenales. *Compt. rend. Acad. I. Sc.* 181:885, 1925.
13. Cori, C. F., and Gertz, T.: Fate of sugar in the animal body. *J. Biol. Chem.* 74:473, 1927.
14. Long, C. N. H., Katzin, B., Fry, E. G.: Adrenal cortex and carbohydrate metabolism. *Endocrinology*, 26:309, 1940.
15. Hartman W. E., MacArthur, C. G., Gunn, F. D., Hartman, W. E., MacDonald, J. J.: Kidney function in adrenal insufficiency. *Am. J. Physiol.* 81:244, 1927.
16. Bauman, E. J., Kurland, S.: Changes in the inorganic constituents of blood in supra-renalectomized cats and rabbits. *J. Biol. Chem.*, 71:281, 1927.
17. Swingle, W. W., Eisenman, A. J.: Studies of the functional significance of the suprarenal cortex. The acid base equilibrium in epinephrectomized cats. *Am. J. Physiol.* 79:679, 1927.
18. Medlar, E. M.: A report of two cases of adrenal insufficiency. *Am. J. Path.* 3:135, 1927.
19. Albright, F., Smith, P. H., Fraser, R.: Syndrome characterized.
20. Thorn, G. W.: Adrenal insufficiency and use of synthetic adrenal cortical hormone. *Proc. Interst. Postgrad. M. A. North America*, 1940, P. 16.
21. Albright, F.: Effect of hormones on osteogenesis in man. *Recent Progress in Hormone Research* Vol. 1, p 293, 1947.
22. Cutler, H. H., Power, M. H., Wilder, R. M.: Concentration of chloride, sodium, and potassium in urine and blood; their diagnostic significance in adrenal insufficiency. *J.A.M.A.*, 111:117, 1938.
23. Robinson, F. J., Power, M. H., Kepler, E. J.: Two new procedures to assist in the recognition and exclusion of Addison's disease. *Proc. Staff Meet. Mayo Clinic*, 16:577, 1941.
24. Conn, J. W., Louis, I. H., Johnston, M. W., Johnson, B. J.: The electrolyte content of thermal sweat as an index of adrenal cortical function. *J. Clin. Invest.* 27:529, 1948.
25. Gaunt, R., Birnie, J. H., Eversole, W. J.: Adrenal cortex and water metabolism. *Physiol. Rev.* 29:281, 1949.
26. Reinecke, R. M., and Kendall, E. C.: Method for bio-assay of hormones of adrenal cortex which influence deposition of glycogen in the liver. *Endocrinology*, 31:573, 1942.
27. Talbot, N. B., Saltzman, A. H., Wixom, R. L., and Wolfe, J. K.: The colorimetric assay of urinary corticosteroid-like substances. *J. Biol. Chem.* 160:535, 1945.
28. Dougherty, T. F., and White, A.: Functional alteration in lymphoid tissue induced by adrenal cortical secretion. *Am. J. Anat.*, 77:81, 1945.
29. White, A., and Dougherty, T. F.: Effect of prolonged stimulation of adrenal cortex and of adrenalectomy on the numbers of circulating erythrocytes and lymphocytes. *Endocrinology*, 36:16, 1945.
30. Thorn, G. W., Forsham, P. H., Prunty, F. T. G.: A test for adrenal cortical insufficiency. *J.A.M.A.* 137:1005, 1948.
31. Thorn, G. W., Recant, L., Hills, A. G.: The use of ACTH as a test for adrenal cortical reserve. *J. Clin. Endo.*, 8:589, 1948.
32. Long C. N. H.: The relation of cholesterol and ascorbic acid to the secretion of the adrenal cortex. *Recent Progress in Hormone Research*, Vol. 1, pp 99, 1947.
33. Recant, L., Forsham, P. H., Thorn, G. W.: The use of ACTH as a test for adrenal cortical reserve. *J. Clin. Endo.*, 8:589, 1948.
34. Conn, J. W., Louis, I. H., Johnson, M. W.: Alleviation of Experimental diabetes in man by administration of reduced glutathione. *Science* 109:279, 1949.
35. Drekter, I. J., Pearson, S., Bartczak, E., and Mac Gavack, T. H.: Rapid method for determination of total urinary 17-ketosteroids. *J. Clin. Endo.* 7:795, 1947.
36. Pincus, G.: Studies of the role of the adrenal cortex in the stress of human subjects. *Recent Progress in Hormone Research*, Vol. 1, pp 123, 1947.
37. Forsham, P. H., Thorn, G. W., Prunty, F. T. G., Hills, A. G.: Clinic studies with pituitary adrenocorticotropin. *J. Clin. Endo.* 8:15, 1948.
38. Cahen, R. L., and Salter, W. T.: Urinary 17-ketosteroids in metabolism: I Standardized chemical estimation. *J. Biol. Chem.*, 152:489, 1944.

## Kansas Medical Society Annual Meetings

1951

May 14-17

TOPEKA, KANSAS

1952

May 5-8

KANSAS CITY, KANSAS

# A Discussion of the Prognosis and Etiology of the Wolff-Parkinson-White Syndrome\*

Phyllis J. Burdon, M.D.\*\*

Topeka, Kansas

The syndrome which bears the name of Wolff, Parkinson and White<sup>1</sup> is characterized electrocardiographically by a shortened P-R interval and a lengthened QRS complex, and clinically by its occurrence in presumably healthy young people prone to attacks of paroxysmal tachycardia. A review of the recent literature alters one's concept of the benignity of the condition in view of the facts that some of the attacks of paroxysmal tachycardia have been shown to be ventricular in origin and an increasing number of cardiac deaths is being reported in this syndrome.

Formerly the paroxysmal tachycardia of this syndrome was considered to be auricular or nodal in origin. Hunter, Papp and Parkinson<sup>2</sup> first described paroxysmal ventricular tachycardia as a form of arrhythmia in two patients with the W.P.W. syndrome. Three additional cases were reported by Levine and Beeson.<sup>3</sup> Palatucci and Knighton<sup>4</sup> have described a further case. Missal, Wood and Leo<sup>5</sup> reported the case of a 20-year-old male who developed right heart failure during an attack of paroxysmal tachycardia associated with this syndrome. Klainer and Joffe<sup>6</sup> added another case to this small series in the same year and with Arana and Cossio<sup>7</sup> bring the total number of cases up to nine.

In 1938 Arana and Cossio<sup>7</sup> reported the first death associated with this syndrome. Their patient had episodes of auricular fibrillation as well as paroxysmal ventricular tachycardia. Wood, Wolferth and Geckler<sup>8</sup> reported the case of a 13-year-old boy with this syndrome who died of congestive heart failure two hours following the onset of an attack of paroxysmal tachycardia. Kimball and Burch<sup>9</sup> reviewed the recent literature and reported eight deaths in which the W.P.W. syndrome was considered responsible.

There has been considerable speculation concerning the mechanisms responsible for the W.P.W. syndrome. The possible existence of an accessory pathway of auriculo-ventricular conduction was suggested by Holzmänn and Scherf<sup>10</sup> in 1932. It was also proposed independently by Wood and Wolferth.<sup>8</sup> The recently reported ingenious experiments of Butterworth and Poindexter<sup>11</sup> show that similar

electrocardiograms with a shortened P-R interval and prolonged QRS complex can be produced in animals by the introduction of an artificial accessory pathway. Wood, Wolferth and Geckler<sup>8</sup> presented the first histological proof of the existence of accessory muscular connections between the auricles and ventricles in their case quoted above. Boyer<sup>12</sup> points out that there are several features of the syndrome that are not satisfactorily explained by the theory of an accessory auriculo-ventricular band. The electrocardiographic pattern tends to disappear with advancing age, yet vagal tone which has been implicated<sup>15</sup> in the mechanism of the syndrome increases rather than decreases with age. A somewhat more important objection is to be found in the failure of multiple precordial leads to establish the existence of early excitation of one or the other ventricle such as is found in true bundle branch block. This point is demonstrated clearly in Figure 1, in V-1 to V-6 where there is no perceptible difference noted in the time required for the intrinsic deflection of the precordial leads taken from the right as compared

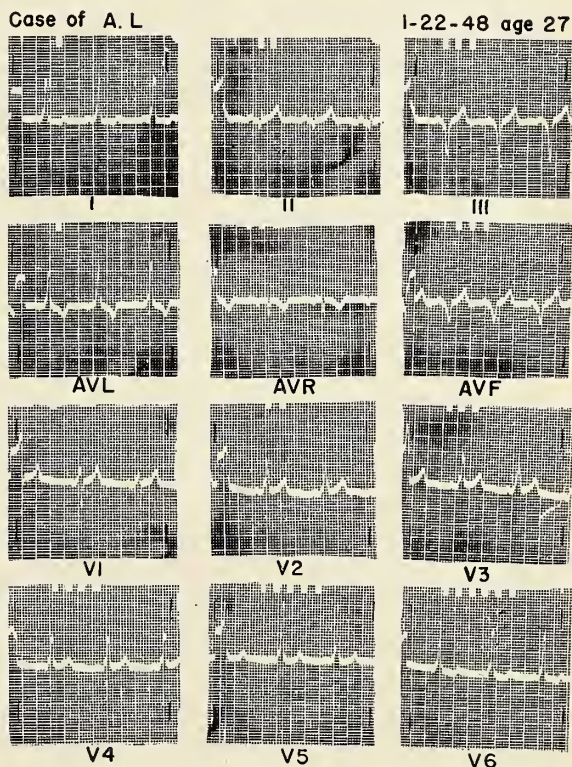


FIG. 1

\* Sponsored by the VA and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

Presented to the meeting of the Kansas Heart Association at Winter VA Hospital, on December 11, 1947.

\*\* Department of Internal Medicine, Winter VA Hospital, Topeka, Kansas.



with similar leads taken from the left side of the precordium.

Other etiological mechanisms which have been considered responsible for the W.P.W. syndrome may be briefly mentioned. A possible relationship between congenital cardiac lesions and anomalous conduction bands between the auricles and ventricles has been considered. Stein<sup>13</sup> reported a case of congenital heart disease with the W.P.W. syndrome, but stated that the case gave no true evidence of the congenital origin of this disturbance. Westfall and Burdon<sup>14</sup> failed to establish the existence of a congenital heart lesion in their case of polycythemia vera associated with the W.P.W. syndrome, an association which they believe to be incidental. Fox, Travell, and Molofsky<sup>15</sup> described the case of a 20-year-old man who had transient episodes of the electrocardiographic pattern of the W.P.W. syndrome. They were able to widen the QRS interval with digitalis and shorten it with atropine. They assumed, therefore, that there is a vagal component in the mechanism of the syndrome.

#### Summary

A review of the current literature regarding the prognosis of the W.P.W. syndrome is discussed. It is suggested that the syndrome is not as benign as has previously been assumed.

The possible mechanisms implicated in the

W.P.W. syndrome have been reviewed. None of these has been definitely established.

#### Bibliography

1. Wolff, L., Parkinson, J., and White, P. D.: Bundle branch block with short P-R interval in healthy young people prone to paroxysmal tachycardia. *Am. Heart Jr.* V, 685, 1930.
2. Hunter, A., Papp, C., and Parkinson, J.: The syndrome of short P-R interval, apparent bundle branch block, and associated paroxysmal tachycardia. *Brit. Heart Jr.*, ii, 107, 1940.
3. Levine, S. A., and Beeson, P. B.: The Wolff-Parkinson-White syndrome with paroxysms of ventricular tachycardia. *Am. Heart Jr.*, xxii, 401, 1941.
4. Palatucci, O. A., and Knighton, J. E.: Short P-R interval associated with prolongation of QRS complex, *Ann. Int. Med.* xxi, 58, 1944.
5. Missal, M. E., Wood, D. J., Leo, E. D.: Paroxysmal ventricular tachycardia associated with short P-R intervals and prolonged QRS complexes. *Ann. Int. Med.* xxiv, 911-920, 1946.
6. Klainer, M. J., and Joffe, H. H.: A case of short P-R interval and prolonged QRS complex with a paroxysm of ventricular tachycardia. *Ann. Int. Med.* xxiv, 920-927, 1946.
7. Arana, R., and Cossio, P.: Fibrilacion auricular y taquicardia ventricular como even tualidad posible en el P-R costo con QRS ancho y medallo, *Rev. argent. de Cordial*, V, 43, 1938. (quoted by Williams, C., and Ellis, L. B.: Ventricular tachycardia, *Arch. Int. Med.* lxxi, 137, 1943).
8. Wood, F. C., Wolferth, C. C., Geckler, G. D.: Histologic demonstration of accessory muscular connections between auricle and ventricle in a case of short P-R interval with prolonged QRS complex. *Amer. Heart Jr.*, 25, 454-462, 1943.
9. Kimball, J. L., and Burch, G.: The prognosis of the Wolff-Parkinson-White syndrome. *Ann. Int. Med.* xxvii, 239-242, 1947.
10. Holzmänn, M., and Scherf, D.: Ueber Electrocardiogramme mit verlängerter Vorhof-Zeitstr. *f. klin. Med.*, cxxi, 404, 1932 (quoted by Williams, C., and Ellis, L. B.: Ventricular tachycardia, *Arch. Int. Med.* lxxi, 137, 1943).
11. Butterworth, J. S. and Poindexter, C. A.: Short P-R interval associated with a prolonged QRS complex, *Arch. Int. Med.* lxix, 437-445, 1942.
12. Boyer, N. H.: The Wolff-Parkinson-White syndrome *New Eng. J. Med.* 234, 4:111-114, Jan. 24, 1946.
13. Stein, Max H.: Wolff-Parkinson-White syndrome in a case of congenital heart disease. *Am. Heart Jr.*, 35, 140-143, Jan. 1948.
14. Westfall, G. A., Jr., and Burdon, P. J.: A case of polycythemia vera associated with the W.P.W. syndrome, *Annals of Int. Med.* (in press).
15. Fox, T. T., Travell, J., and Molofsky, L.: Action of digitalis on conduction in the syndrome of short P-R interval and prolonged QRS complex. *Arch. Int. Med.* 71, 206-218, 1943.

#### NEW A.M.A. DIRECTORY

A copy of the A.M.A. directory for 1950, the first published since 1942, has been received at the Executive Office. Information from the directory will be supplied upon request. Physicians interested in securing their own copies, at \$25 each, may order them from

Mr. A. W. Stack  
Fellowship, Membership and Subscription Department  
American Medical Association  
535 North Dearborn Street  
Chicago 10, Illinois

# Primary Carcinoma of Intrahepatic Bile Ducts\*

R. Franklin Carter, M.D., and William A. Smiley, Jr., M.D.

New York, New York

Junction City, Kansas

Primary carcinoma of the intrahepatic bile ducts is a rare disease. The literature contains more reports of hepatomas than reports of cholangiomas. In Hayne-Kernahan's<sup>1</sup> series, the ratio was nearly 3:1. The literature shows that primary carcinoma of the liver occurs in an average of 0.5 per cent of cases coming to autopsy. The incidence of primary carcinoma of the liver has a definite geographic distribution. The orientals, especially the Chinese, have been shown to have a particularly high incidence of this disease. The prevalence of animal parasite infestation, especially flukes, with resultant cirrhotic changes in the liver, has been proposed as the reason for the high incidence of hepatic cancer among these orientals.

*Age:* Primary hepatic cancer is a disease of older age groups; in 60.3 per cent of Eggel's<sup>2</sup> cases, the lesion afflicted persons from 41 to 70 years of age.

*Sex:* This disease seems to be predominantly a disease of males. In almost two-thirds of Eggel's cases the patients were males. However, 57.1 per cent of the cancers of the bile ducts in Eggel's series occurred in women. It has been suggested that the prevalence of cholangitis in women may be a factor.

*Pathology:* Primary carcinoma of the liver may be divided into two types.<sup>3</sup>

1. Primary Parenchymatous Carcinoma (Hep-  
atoma), composed of distorted hepatic cells which, according to the type of the tumor, may show fair differentiation or be irregular in size and shape and produce neoplastic giant cells of a bizarre appearance. Masses of bile pigment can usually be demonstrated within the cells, and this is taken to indicate that the growth is primary and of parenchymatous origin.

2. Biliary-duct Carcinoma (Cholangiomas) microscopically reveal a composition consisting of distorted biliary ducts with a resulting and decidedly tubular architecture. It is invasive and may metastasize within and outside the liver.

*Metastases:* According to Ewing,<sup>4</sup> extrahepatic metastases occur much earlier and are more frequent from cholangiomas than from hepatomas. Metastases are largely confined to regional lymph nodes. Metastatic carcinomas to the liver from other sources are from 8 to 16 times as frequent as primary carcinomas of the liver.

*Prognosis and Treatment:* The only possible treatment of primary carcinoma of the liver is resection

of the tumor. This procedure is performed with great risk and often is unsuccessful. Wallace<sup>5</sup> in 1941 collected 29 cases of "removable hepatoma" from the literature and added a case of his own. Radiation for these tumors is of little value.

*Clinical Picture:* The most common presenting complaint is abdominal pain. Weight loss usually averages around 20-30 pounds. Fever ranges between 99-101°. Jaundice may be present if the tumor blocks any of the major bile ducts. A mild anemia is common. In a few cases a palpable tumor in the right upper quadrant may aid in the diagnosis.

## Case: L.M.—K32850

A 65-year-old white male of Russian extraction entered this hospital on October 5, 1949, with a history of painless jaundice of five months duration. Onset was associated with generalized malaise, icterus, dark yellow urine, clay colored stools and pruritis. A gastrointestinal series done on June 1 was reported as negative. Cholecystectomy and liver biopsy was performed on June 10, 1949, at another hospital. Pathological report was: (1) cholecystitis, chronic; (2) cholelithiasis—interstitial hepatitis, chronic, obstructive.

Post-operatively the jaundice had increased and this was associated with epigastric cramping pain radiating to the mid-back. Patient had lost 45 pounds since onset of illness.

*Physical Examination:* P 78, BP 108/72, R 22, chronically ill patient with evidence of recent weight loss. Skin was yellow-green with icteric sclera. There was a questionable mass in upper right quadrant and a healed upper right mid rectus operative scar.

## Laboratory Studies:

RBC .....	3,300,000	
Hb. ....	10.0	gms.
Leukocytes ..	9,150	
Polys. ....	71	
Eosin. ....	2	
Lymph. ....	24	
Mono. ....	3	
Urea N <sub>2</sub> .....	9.0	
Glucose .....	60	
Phosphate ....	3.9	
Ca. ....	11.2	
Alk. Phosphatase	22.2	(Bodansky Units)
Icterus Index	150	(Van Den Bergh + direct and indirect)
Bilirubin ....	18	
Cholesterol ..	450	
Esters .....	200	
Esters/total	43	
Sed. rate .....	68	
Prothrombin		
time .....	17.5 and 37.5	(diluted)
Urine—sp. gr.	1.018	
+ for bile		
Wasserman—negative		

\* Case report from University Hospital of New York University-Bellevue Medical Center.



Cephalin—cholesterol flocc.—negative  
 Thymol turbidity—negative  
 Proteins—total 6.2  
   Albumin .. 3.6  
   Globulin .. 2.6  
 A/G ratio.. 1.4  
 Stool negative for urobilinogen  
 Duodenal drainage unsuccessful

Patient received 1000 cc. whole blood but continued to fail. It was decided that he probably had an extrahepatic biliary obstructive jaundice and should be explored. On October 19, 1949, an operation was performed. A right subcostal incision was used. Excessive bleeding was encountered during the entire operation. Numerous varicosities were noticed in all planes of dissection. Liver was not enlarged. There was minimal abdominal ascites. A nodular irregularity was noted in the region of the hilus of the liver. Bile could not be aspirated from the region of the common duct. Due to the excessive bleeding, it was decided that a hepatostomy should be done and at some future date a more adequate exploration would be possible. The under-surface of the right lobe of the liver was aspirated and 25 cc. of whitish liquid was obtained. A No. 16F catheter was introduced and the operation concluded with the catheter brought out through the operative incision.

Operative diagnosis was: 1. Stricture of common hepatic duct, or 2. Carcinoma of hepatic bile ducts. Thirty-six hours following operation, dark yellow bile commenced to drain from the catheter. Seven days post-operatively the blood chemistries were:

Icterus Index .....	98
Bilirubin .....	7.3
Thymol turbidity .....	2
Alk. Phos. ....	10.6
NPN .....	16
Cl <sub>2</sub> .....	380
CO <sub>2</sub> .....	65

Icterus had diminished. On October 25 a cholangiogram was done through hepatostomy tube and showed somewhat dilated intrahepatic biliary radicles with dilatation especially marked in the region of left hepatic duct. Common duct was not visualized and there was no dye in the duodenum.

On November 1, or 12 days post-operatively, patient had developed ascites which cleared up somewhat with mercurhydrin and paracentesis. Papanicolaou stains on ascitic fluid revealed tumor cells of adenocarcinoma type. Temperature ranged up to 103.8°. On November 8, 1949, or 19 days post-operatively, the hepatostomy drainage lessened. Blood chemistries were:

Icterus .....	150
NPN .....	29
Alk. Phos. ....	11.6
Cholesterol .....	95
Tot. Prot. ....	5.8
Alb. ....	2.9
Glob. ....	2.0
A/G .....	1.4

Course was downhill and on November 9 patient expired in spite of numerous blood transfusions, digitalis, oxygen, etc.

*Autopsy*—Final Diagnosis: Generalized arteriosclerosis; arteriosclerosis of coronary arteries; infarct of myocardium, healed, anterior wall; **CARCINOMA OF LIVER, DUCT CELL TYPE, INTRAHEPATIC**; secondary carcinoma of lung; jaundice; nephrosis, due to bile; old operation, cholecystectomy; recent operation, laparotomy and hepaticostomy; diffuse fibrinous peritonitis; ascites; congestion of lungs, spleen and liver; thrombosis of portal vein; splenomegaly due to portal hypertension; chronic lymphadenitis of abdominal lymph nodes; healed apical tuberculosis, right lung; fibrous pleural and peritoneal adhesions; hemosiderosis of lymph nodes and bone marrow; benign hypertrophy of prostate gland; edema of legs; cyanosis of lips and fingernail beds.

(Signed) D. Roth, M.D.

#### Summary

1. Primary carcinoma of the liver is a rare disease occurring in around 0.5 per cent of all autopsies. Hepatomas occur about three times as frequently as cholangiomas.
2. This disease is more prevalent in older age groups; it affects males more frequently than females.
3. Abdominal pain, anemia, and weight loss are the most common clinical manifestations.
4. Metastases are more common from cholangiomas and are usually found in the regional lymph nodes.
5. The only chance for a cure is a resection of the tumor. Radiation is of little value.

#### References

1. Robert M. Hayne, M.D., and James W. Kernahan, M.D., Primary Carcinoma of the Liver, Arch. Int. Med., 79:532-554, (January) 1947.
2. Eggel, H.: Ueber das primäre carcinoma der Leber, Butr. z. path. Anat. u. z. allg. Path., 30:506-604, 1901.
3. Foot, N. C.: Pathology in Surgery, 262:264, J. B. Lippincott Co., 1945.
4. Ewing, J.: Neoplastic Diseases, W. B. Saunders Co., Philadelphia, 1940.
5. Wallace, R. H.: Resection of Liver for Hepatoma, Arch. Surg. 43:14-20 (July) 1941.

# Massive Gastro-Intestinal Hemorrhage in Pregnancy With Report of Case

R. H. Maxwell, M.D., and J. G. Kendrick, M.D.

Wichita, Kansas

The following case is being reported because of the paucity of material in the literature concerning massive gastro-intestinal hemorrhage associated with pregnancy, and because we feel this case may indicate an association of the condition with avitaminosis C.

Greeley and Stubenbord<sup>1</sup> in 1941 reported a case of massive hematemesis associated with pregnancy in which a stillborn fetus was delivered. The patient was vomiting large quantities of blood at admission and had been doing so for 24 hours. She stopped bleeding shortly after admission and delivered spontaneously within the next 24 hours. She was given vitamins K and C.

Carangelo and Efstation<sup>2</sup> in 1948 reported four cases of massive gastric hemorrhage in pregnancy. Three of these evidenced toxemia. Those that came to autopsy (two) showed no bleeding site or gastro-intestinal pathology which could be held responsible for the hemorrhage.

Sturrock<sup>3</sup> in 1913 reported a case of difficult labor complicated by massive hematemesis lasting 24 hours, in which recovery from the hemorrhage was spontaneous.

## Case Report

The patient, age 22, gravida I, was first seen December 3, 1946, having begun her last period September 13, 1946. She had been married one year. She reported no familial history of disease and had been operated in March of 1946 for acute appendicitis with uneventful recovery. She had had no other serious illness and had no history of hypertension. Her physical examination revealed a slightly obese white female with no abnormalities, pregnant at about three months. Her blood pressure was 170/90. Laboratory work was within normal limits. Through the routine visits of the next five months her blood pressure stayed at 150/80 and her urine was normal. The weight gain was 16 pounds.

On May 22, 1947, her blood pressure was 190/100 with a three plus albumin in the urine and a weight gain of 11 pounds in two weeks. She was placed on a salt poor diet with complete bed rest at home, hospitalization being refused. At this time, one month from term, induction was not feasible because of a high station and a long, thick cervix.

On May 29, her blood pressure was 200/100 with a three plus albumin and a weight loss of nine pounds. Hospitalization was again advised and re-

fused. Early the morning of May 31 the patient had a convulsion and was then hospitalized. Before being placed in bed at the hospital she again convulsed and was immediately sedated with opiates and pentothal. Her blood pressure was 200/110 with four plus albumin. Heavy sedation was maintained with good control of the toxemia and 48 hours later, after an easy six-hour labor, a stillborn five-pound boy was delivered. At this time her blood pressure was 160/90, and she had had a positive water balance of some 1000 cc. for the preceding 24 hours. During the next 24 hours the patient was comatose and she was maintained on nasal oxygen with two blood transfusions, but at the end of this period she began to show response. Following delivery prophylactic penicillin was started.

Early June 4, two days after delivery, she had a large, tarry stool and through the day several other small tarry movements were passed. That evening bright blood appeared in the stools. Vitamin K as *Synkamin* was commenced. At this time blood chemistry was as follows: non-protein nitrogen, 150; blood urea, 130; calcium, 8.4; potassium, 24.1; Vitamin C, 0.5 mgm; icteric index, 18; platelets, 200,000; clotting time, three minutes; bleeding time, 1½ minutes; prothrombin time, 90 per cent. The urine was negative. The patient then became septic, the temperature going as high as 104.5. Blood transfusions and intravenous fluids were administered as needed to combat shock and anemia.

June 8, six days after delivery, the patient began to vomit copious quantities of bright blood. The largest such vomitus was 800 cc. Intermittently through the next two weeks hematemesis and tarry or bloody stools occurred with discouraging regularity. During this time the patient took some fluid nourishment by mouth as well as venoclysis. Episodes of shock were frequent and were managed by nasal oxygen and whole blood transfusions.

June 12, 10 days postpartum, a painful effusion of the left hip complicated the case further. X-ray revealed only a serous effusion of the joint without bony pathology.

By the evening of June 22, 20 days postpartum, her condition was considered so desperate that extreme measures were decided upon. Because the frankly bloody emesis and stools occurred at the time, it was decided that a wide-spread gastro-intestinal lesion must not be responsible. A tentative



diagnosis of generalized uremic ulceration was considered, but the NPN had declined to 44 mgm, and while possible, the diagnosis did not seem plausible, considering the rest of the picture. As a last measure surgical exploration was decided upon. The surgeon, among other routine orders in preparation for surgery the next day, ordered 1000 mgm. of ascorbic acid intravenously. Thereafter the patient had no more hematemesis and the stools rapidly cleared of evidence of blood. Large dosages of vitamin C were continued.

A total of 44 whole blood transfusions, type AB Rh positive, had been given.

Improvement of the hip was gradual, but one week later the patient was dismissed in good condition to complete her convalescence at home.

#### Comment

This case has much in common with few others in the literature. Three of the cases of Carangelo and Efstation evidenced toxemia and one had a septic temperature.

Greeley and Stubenbord apparently did not consider toxemia in their patient, but though she had been bleeding for 24 hours before admission her blood pressure was 125/85.

The administration of large dosage of vitamin C was followed, in our case, by complete cessation of hemorrhage. At the time we were not particularly impressed by this fact, but in retrospect we feel that the definite turning point was reached with the addition of that agent. This was in accordance with the experience of Greeley and Stubenbord. Hatherly<sup>4</sup>

reports a case of massive hematemesis not associated with pregnancy, but in which no pathology was found on exploration, and which recovered quickly after large doses of vitamins C and P.

As described by Carangelo and Efstation, the study of their cases which came to autopsy revealed no lesion from which the bleeding could be said to arise. Massive hematemesis without a demonstrable lesion was referred to by White<sup>5</sup> in 1906 as occurring, and our more recent literature refers to it.

Eusterman<sup>6</sup> and Balfour<sup>7</sup> mention various possible underlying causes of massive gastro-intestinal hemorrhage without visible lesions as being splenic or liver disease, blood dyscrasia, etc. Apparently these hemorrhages are due to a widespread involvement of the entire gastro-intestinal tract.

We cannot feel that any conclusions are warranted on the basis of this one case, but we do feel that the importance of vitamin C in massive gastro-intestinal hemorrhage cannot be overlooked.

Toxic patients usually have a sub-standard diet, and this with a period of several days of coma without adequate substitution of this vitamin complement could well precipitate avitaminosis and in a toxic state determination of vitamin C blood levels should be important as a preventive measure.

#### Bibliography

1. Greeley, A. V. and Stubenbord, W. D.: *Am. J. Obst. and Gyn.* 42; 156-156, 1941.
2. Carangelo, J. and Efstation, T. D.: *Am. J. Obst. and Gyn.* 56; 191-194, 1948.
3. Sturrock, W. D.: *Brit. M. J.* 1; 218, 1913.
4. Hatherly, L. I.: *Brit. M. J.* 1; 679-690, 1947.
5. White, W. H.: *The Lancet* 2; 1189-1195, 1906.
6. Eusterman, G. B.: *St. Paul M. J.* 15; 587-595, 1913.
7. Balfour, D. G.: *J.A.M.A.* 73; 571-575, 1919.

### ARE YOU REGISTERED TO VOTE AUGUST 1?

All physicians and members of their families should exercise their right and privilege to vote at the primaries, August 1. United States Senators and Representatives and state and county officers will be nominated. Be sure to vote!

## OCCUPATIONAL CANCER

The rapid and enormous growth and diversification of modern industry in the last 50 years has been accompanied by a considerable increase in the number and types of industrial cancer, many cases of which have not been recognized. Although neither industrial management, labor organizations, legislative bodies nor the medical profession have heretofore fully appreciated the potential social and medical significance of this type of environmental cancer, their interest is now being aroused.

A higher index of suspicion and more thorough employment history extending over several decades would improve our diagnosis of these tumors. The individual's environment 10 years previously may hold the clue to the cause of certain tumors of the skin, urinary tract, respiratory system or bones.

Recognized and suspected occupational carcinogenic agents include organic chemicals such as beta-naphthylamine, benzidine, benzol, tar, pitch, asphalt, soot, lamp black, shale oil, paraffin oil, anthracene oil, creosote, lubricating and fuel oils, grease, estrogenic hormones, arsenicals, chromates, nickel carbonyl, asbestos, beryllium, and physical agents such as ultraviolet, alpha-, beta-, gamma- and roentgen rays. These substances, improperly controlled, may have carcinogenic action on the industrial producers, handlers or users or on the general public through buying or consuming products or by contact with industrial wastes discharged into the air, water or soil. The increased incidence of skin cancer in farmers and sailors from their frequent exposure to sunlight is recognized.

Statistical evidence shows that an excessive incidence of a certain type of cancer among members of a given occupational group suggests the existence of an environmental cancer. The rate of incidence among exposed individuals and the length of average latent period depend upon the potency of the carcinogen, duration and intensity of exposure and individual susceptibility. Occupational cancers occur chiefly in males because they have more frequent contacts with industrial carcinogens.

Clinically, a high rate of primary multiplicity is characteristic of occupational cancer. Occupational lesions such as arsenic or tar dermatitis, actinic dermatitis and radiation osteitis are precancerous warnings of industrial cancers to come.

Although industrial cancer is not a frequently recognized type of cancer, it represents a type of tumor which may increase in frequency and importance. Its astute recognition by the medical profession would be an important step in facilitating cancer prevention.



## PRESIDENT'S PAGE

Dear Doctor:

There are two related organizations which I am sure deserve far more support than we are giving them. I refer to the Kansas Medical Assistants' Society and the Woman's Auxiliary to the Kansas Medical Society.

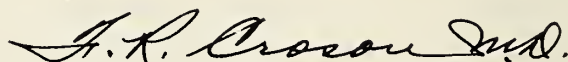
I believe that it is the privilege and duty of every doctor in the state to see that his assistants belong to the former organization. He should pay their dues into the society and he should see that they attend the annual meetings at his expense. The friendships made, the fellowship enjoyed, and the knowledge which is disseminated at these meetings will pay you both big dividends. Our assistants are the natural public relations department of the office. They are well organized in the larger centers but more membership and aid is needed from the smaller locations.

Our Woman's Auxiliary is the public relations department of our home and social lives. The national organization has accomplished wonders in the public relations field, working hand in hand with Whitaker and Baxter of the A.M.A. The same is true of our state organization, but at the county level many of them need our help and we need theirs. Many county societies are doing excellent work; many are unorganized; many are organized but are not effective. Let us acquaint them with our great national problems and with voluntary prepaid medical and hospital plans in order that they may be able to converse intelligently on these subjects at their clubs, ladies aid, or other places where women meet on a community level. They need not be public speakers, politicians, or doorbell ringers—just simply well informed, intelligent doctors' wives.

The committee appointments have been made for the year and are published in this issue of the Journal. We have arrived at these appointments after careful consideration, thought and deliberation, and they are based upon ability, willingness to work, specialties, geographical distribution and personalities. Any number of good men were omitted from committees because of other work in or for our Society. I refer to the members of the Council, State Board of Health, Blue Shield, Blue Cross, the Board of Registration and Examination, etc. They are already contributing to our organization, and to them and for their work we are sincerely grateful. It is our conviction that each committee has a definite function and it is your responsibility to perform that function to the best of your ability.

We hope to see you in San Francisco.

Sincerely,

A handwritten signature in cursive script, reading "J. R. Croson M.D.", written in dark ink.

President.

## EDITORIAL COMMENT

### Editorial in Nine Words

"The 1948 infant mortality rate for the United States was the lowest on record according to figures released today by Federal Security Administrator, Oscar R. Ewing." (From FSA release dated March 27, 1950.)

Is this the system Mr. Ewing wants to change?

—*Journal of the Medical Society of New Jersey*, May, 1950.

### Antihistaminic Drugs

Although not the first to discuss the failure of antihistaminic drugs, an article in the May 11 New England Journal of Medicine is probably the most comprehensive and conclusive dissertation on this subject to date. Six physicians from the Department of Preventive Medicine of the School of Medicine at Western Reserve University recorded two experiments in this field.

They explain in detail the elaborate control measures employed, the case histories that were taken before and during the onset of illness, the carefully planned distribution of a variety of antihistaminic substances as well as placebos, and the detailed critical analysis of two physicians who were unaware of the mechanics of the experiment. The first problem was studied in a group of families in Cleveland under normal conditions. The second, using volunteers from students at the medical school, dealt with inoculations of cold virus. The statistics in the first series presented 376 respiratory illnesses occurring in 203 persons. The second experiment consisted of illnesses among 31 medical students.

Although the authors carefully defined the different steps of each procedure, those are technicalities that may be obtained by reading the article. The summaries, differing considerably from numerous other reports, including some published by the Council on Pharmacy and Chemistry of the American Medical Association, are of primary importance to this editorial.

The authors were unable to find any beneficial effect from the use of antihistaminic products. The drugs did not alter the clinical picture, and even in patients with known allergies the duration of the illness was the same in treated and untreated individuals. There was no significant beneficial effect regardless of whether the dosage was considered adequate or inadequate, whether treatment began before or after symptoms of the cold were noticed. In one series 32 patients had two or more respiratory illnesses during the period of observation, at least one of which was treated and one or more was not treated. Again, it was impossible to detect a signifi-

cant difference between the duration of the treated and untreated illnesses.

Comparable results were obtained in the medical student volunteers. They were grouped to receive nasal secretions, sterile milk, the antihistaminic drug or the placebo. Equal numbers developed colds among those who had received 50 mg. doses of antihistaminic drugs four times a day prior to inoculation and among those who were given placebos. There was no appreciable difference in the duration of symptoms. Eight noted side reactions attributed to the drug but of these four had received placebos.

The authors conclude their article by saying, "The antihistaminic drugs have been evaluated by observation of their effect on naturally occurring respiratory infections and by determination of their influence on the occurrence and subsequent course of common colds developing after the experimental inoculation of volunteers. No beneficial prophylactic or therapeutic effect was demonstrated."

### Frightened Men

Mr. Ewing, who is still Federal Security Administrator but who is not yet some of the other things he has expressed a desire to be, made a speech at Atlantic City before the International Ladies Garment Workers. The press quoted only a few of his remarks and they all had to do with the A.M.A. Just what special appeal a lawyer's private appraisal of the A.M.A. might have to the International Ladies Garment Workers is not instantly apparent, but what the speaker said adds some light to him as an adversary and as a man.

Mr. Ewing said the A.M.A. is made up of "fraidy-cats," that the organization is a "chapter of the league of frightened men" and that the by-laws of the A.M.A. "provide you cannot be a member in good standing unless you distrust the people of the United States."

Undoubtedly Mr. Ewing made other comments that were not quoted, but when a speaker discharges a volley like the above his ammunition is pretty well spent. His audience would not be expected to have any exceptional knowledge of the A.M.A., and if that was to be the topic of an address it appears that the integrity of the position occupied by the speaker should have brought forth something a little more enlightening than "fraidy-cat." Analyzing his comments might call forth many remarks, of which the following are the first that come to mind.

These "frightened men" have been afraid, desperately afraid, that the leadership in some branches of government lacks understanding of the problems



they are trying to adjust. Not only does their background leave them unprepared for the situation but their naive, petulant name-calling distinguishes them as trifling in the position destiny has given them. Doctors are a chapter of that growing league of frightened men, numbering now into the millions, who tremble before the whims of masters of their future.

Calling them "fraidy-cats" didn't exactly allay their distrust, so the only other purpose in the remark must have been the Federal Security Administrator's belief that this gem of oratorical genius would heighten the garment workers' respect for the speaker. Of course, Mr. Ewing might have underestimated the intelligence of his audience. He did that at least once in a radio interview and at least once in a public address—but then some persons have the ability to learn more readily than others.

Where he got the quotation from the A.M.A. by-laws is unknown. The 1949 edition of the constitution and by-laws has been examined without reward, nor could any flight of fancy give the remotest hint of such an interpretation to any part of the document. In fact the A.M.A. shows every evidence of its greater trust in the people of the United States than does Mr. Ewing.

The A.M.A. has faith in the people's ability to govern themselves and opposes a government by bureaucracy or dictatorship. The A.M.A. has confidence in the system of free enterprise. The A.M.A. believes that the people of the United States will work out their medical care problems on a voluntary basis. Mr. Ewing distrusts their ability in this regard and demands compulsory methods. And, finally, the A.M.A. has faith in the intelligence of the United Ladies Garment Workers and all others in the United States to understand a simple, logical explanation. If Mr. Ewing had similar faith in that segment of the people of the United States whom he addressed, he would have used a different approach.

### Committees—1950-1951

Committee appointments for the coming year may be found on Page VI in this issue of the Journal. F. R. Croson, M.D., president, spent many hours in this difficult and important task, completing it early in the hope that committees may begin their meetings at once.

Many chairmen who have performed outstanding service have been altered for the sole reason that rotation of these positions provides an opportunity for more members to serve their Society. It is from committee activities that future leaders are devel-

oped, and this year many younger physicians have been assigned to committee membership.

Other major considerations in the selection of committee members were the personal interests of the members, their work on local levels, and overall geographical distribution. Certain committees are composed entirely of specialists and in the majority of those instances the physicians practicing that specialty selected their own chairman and members. This is the case of the committee on Anesthesiology, Conservation of Eyesight, Conservation of Hearing, and others.

As always, your president wishes that many others might have been selected for committee assignments but wants it to be known that the lists are not closed. He will welcome suggestions at any time and particularly those in which a member offers to serve. Every consideration will be given to such correspondence and if possible the request will be honored.

Committee activity is the basis for all Society progress. Every major project the Society has undertaken began at the committee level. It is hoped that the coming year finds many new fields of public service developed in the various committees. Your president pledges his cooperation and that of the executive office in such endeavors and hopes each committee will find this a stimulating and productive year.

### Woman's Auxiliary Elects Officers

The Woman's Auxiliary to the Kansas Medical Society elected officers at its annual meeting held in Wichita. Mrs. John A. Billingsley, Kansas City, succeeded Mrs. Charles H. Miller, Parsons, as president. Other new officers are: president-elect, Mrs. M. A. Brawley, Frankfort; first vice president, Mrs. Barrett A. Nelson, Manhattan; second vice president, Mrs. Charles Underwood, Emporia; third vice president, Mrs. H. L. Collins, Beloit; recording secretary, Mrs. W. J. Biermann, Wichita; treasurer, Mrs. Richard O'Donnell, Ellsworth; corresponding secretary, Mrs. Lee H. Leger, Kansas City.

Committee chairmen are: Archives and History, Mrs. Ralph Combs, Leavenworth; Exhibits, Mrs. J. R. Campbell, Pratt; Legislation and Public Relations, Mrs. L. A. Donnell, Wichita; Today's Health, Mrs. I. Joseph Waxse, Oswego; Program, Mrs. Marshall Hyde, Ottawa; Editorial, Mrs. E. R. Millis, Kansas City; Parliamentarian, Mrs. L. B. Spake, Kansas City; Nominations, Mrs. Charles H. Miller, Parsons; National Bulletin, Mrs. Orlin W. Longwood, Stafford; Resolutions, Mrs. C. T. Ralls, Winfield; Revisions, Mrs. E. C. Duncan, Fredonia; Finance, Mrs. J. D. Colt, Sr., Manhattan; Nurse Recruitment, Mrs. L. S. Nelson, Jr., Salina.

## 91st Annual Session, Kansas Medical Society

The 91st annual session of the Kansas Medical Society was held at Wichita, May 15-18, 1950. Registrations were as follows: members of the Kansas Medical Society, 649; guest physicians, 62; other guests (interns, residents, laboratory technicians, students, etc.), 238; members of the Woman's Auxiliary to the Kansas Medical Society, 244; members of the Kansas Medical Assistants' Society, 300; total, 1,493.

The usual events for sportsmen took place on the first day of the meeting, climaxed with a banquet that evening at the Hotel Broadview. Scientific sessions were held all through the second, third and fourth days, with outstanding guest speakers from all sections of the country speaking on a variety of topics. Scientific sessions for eye, ear, nose and throat specialists ran concurrently on Tuesday and Wednesday.

A large number of commercial and scientific exhibits attracted all who were present. A committee composed of guest speakers judged the scientific exhibits and awarded honors as follows: first, Plastic Surgery, Dr. A. E. Hiebert and Dr. H. W. Brooks, Wichita; second, X-ray Display, St. Francis Hospital X-ray Department, Wichita; third, X-rays of Tuberculosis Patients, State Sanatorium for Tuberculosis, Norton.

The big social event of the year, the annual banquet, was held May 17 at the New Moon. Mr. Leonard E. Read of New York pleased the large crowd in attendance with his address, "Selling Liberty—A Public Relations Project for Every American." Dr. F. R. Croson, incoming president, presented an engraved past president's key to Dr. Hadson Peck. The evening was concluded with a dance.

The two business meetings of the annual session are reported in detail elsewhere in this issue.

### Officers for 1950-1951

At the close of the session Dr. F. R. Croson, Clay Center, took office as president. He will be assisted during the year by the following officers: president-elect, Dr. C. H. Benage, Pittsburg; first vice president, Dr. W. F. Bernstorff, Winfield; second vice president, Dr. J. V. Van Cleve, Wichita; constitutional secretary, Dr. Dale D. Vermillion, Goodland; treasurer, Dr. J. L. Lattimore, Topeka; delegate to the American Medical Association, 1951-1953, Dr. L. S. Nelson, Salina; alternate, Dr. George Gsell, Wichita.

### Councilors for 1950-1951

New councilors were elected for Districts 4, 5, 9, and 11. The complete list of those now serving, with the date of expiration of their terms, is as follows:

1. Dr. W. L. Anderson, Atchison, 1951
2. Dr. A. J. Rettenmaier, Kansas City, 1951
3. Dr. J. G. Hughbanks, Independence, 1952
4. Dr. F. C. Taggart, Topeka, 1953
5. Dr. L. J. Beyer, Lyons, 1953
6. Dr. J. V. Van Cleve, Wichita, 1952
7. Dr. H. A. Hope, Hunter, 1951
8. Dr. W. A. Smiley, Junction City, 1951
9. Dr. M. J. Renner, Goodland, 1953
10. Dr. M. C. Eddy, Hays, 1952
11. Dr. C. V. Black, Pratt, 1953
12. Dr. R. G. Klein, Dodge City, 1952.

### Nominating Committee

In accordance with a new amendment to the Constitution and By-Laws, a Nominating Committee was elected at the second meeting of the House of Delegates. Those named to serve on the committee are: Dr. J. L. Lattimore, Topeka, chairman; Dr. W. P. Callahan, Sr., Wichita; Dr. O. W. Davidson, Kansas City; Dr. W. M. Mills, Topeka; Dr. L. S. Nelson, Salina.

### Official Proceedings, First Session, House of Delegates May 16, 1950

The first session of the House of Delegates, having enough present for a quorum, summarized much of the routine business such as committee reports on the basis that this had been published in the Journal. The reports of the editor of the Journal and of the executive secretary are carried elsewhere in this issue.

The secretary's report indicated a total membership of 1,661, an increase of 38 over the previous year.

Under new business a number of resolutions were introduced which will be recorded under the second meeting of the House of Delegates, where they were acted upon.

A memorial to the late Dr. J. F. Hassig, printed elsewhere in the Journal, was read.

Mr. Blake Williamson, a member of the Board of Social Welfare, discussed the indigent medical care program of the state. The House directed the president to appoint a committee to work with the Kansas State Board of Social Welfare.

A resolution conferring upon Dr. J. L. Lattimore the first distinguished service award of the Society was read. This is printed elsewhere in the Journal.

The treasurer's report consisted of a summary of the recent audits of the Society and Journal funds. The House approved previous Council action of giving \$10,000 to the Kansas Medical Student Loan Fund.

There being no further business, the meeting adjourned.



**Official Proceedings, Second Session, House of Delegates  
May 18, 1950**

A quorum was declared present and immediately affirmative action was taken on the following resolutions:

**Resolution Number 1**

WHEREAS: The House of Delegates of the American Medical Association, meeting in Atlantic City, New Jersey, in June, 1949, adopted the report of the Committee on Hospitals and the Practice of Medicine (Hess Committee) as amended by the Reference Committee on the Report of the Board of Trustees, and

WHEREAS: The House of Delegates of the American Medical Association meeting in Washington, D. C., December, 1949, re-referred the above report to the Committee on Hospitals and the Practice of Medicine (Hess Committee) for reconsideration and possible amendment, and

WHEREAS: The report contains recommendations and modes of procedure calculated to eliminate differences between doctors of medicine and hospitals, and/or medical schools, which are contrary to the public welfare; now therefore be it

RESOLVED: That the Kansas Radiological Society meeting in Wichita, on May 17, 1950, record its support of the principles and procedures set forth in the Hess Report, and be it further

RESOLVED: That this action of the Kansas Radiological Society be transmitted at once to the Kansas Medical Society requesting the Kansas Medical Society to support the Kansas Radiological Society in their position as favoring the Hess Report, and that the delegates of the Kansas Medical Society to the House of Delegates of the American Medical Association meeting in San Francisco in June, 1950, be instructed to lend their best efforts to the re-adoption of the report of the Committee on Hospitals and the Practice of Medicine by the House of Delegates of the American Medical Association in a form that will enforce the Principles of Medical Ethics of the American Medical Association; will be consistent with law, both state and federal; and will protect patients to whose welfare the medical profession is dedicated.

**Resolution Number 2**

WHEREAS: Chapter III, Article VI, Section 6, of the recently revised Principles of Ethics of the American Medical Association reads:

**Purveyal of Medical Service**

Section 6.—A physician should not dispose of his professional attainments or services to any hospital, lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit exploitation of the services of the physician for the financial profit of the agency concerned. Such a procedure is beneath the

dignity of professional practice and is harmful alike to the profession of medicine and the welfare of the people.

WHEREAS: The committee known as the Hess Committee reported to the American Medical Association House of Delegates in Atlantic City in June, 1949, in detail, regarding the practice of medicine by hospitals.

WHEREAS: The Hess report in one paragraph stated in explanation as follows: "Therefore, hospitals and medical schools cannot charge patients fees for medical services rendered by physicians even though the physicians are full time employees of an individual or institution."

WHEREAS: The Hess report was adopted by the American Medical Association House of Delegates and the Trustees of the American Medical Association were instructed to enforce the principles and obligations involved.

WHEREAS: The House of Delegates of the American Medical Association in Washington in December, 1949, reaffirmed its belief in and confirmed the principles stated in the Hess report and directed that action by the Trustees be deferred only until all legal requirements were met in order to insure that all action taken shall comply with the law.

WHEREAS: The Trustees of the American Medical Association are to report to the House of Delegates in June, 1950, regarding this matter and the Hess Committee is to report its further study.

Therefore, BE IT RESOLVED: The House of Delegates of the Kansas Medical Society confirms the action of the American Medical Association House of Delegates regarding the reaffirmation of the principles of the so-called Hess report.

BE IT FURTHER RESOLVED: The House of Delegates of the Kansas Medical Society requests the American Medical Association House of Delegates to expedite action and implement methods that WILL enforce the Section 6, Article VI, Chapter III of the Principles of Medical Ethics without delay.

BE IT FURTHER RESOLVED: Our delegates to the American Medical Association are hereby instructed regarding these desires and requested to work for their fulfillment.

**Resolution Number 3**

BE IT FURTHER RESOLVED: That the House of Delegates at the 91st annual meeting of the Kansas Medical Society does hereby reaffirm the approval and active sponsorship by the Kansas Medical Society of voluntary prepaid medical care programs with special endorsement of Kansas Physicians' Service now known as Blue Shield, and

BE IT FURTHER RESOLVED: That the delegates to the American Medical Association be spe-

cifically instructed to make known the position of the Kansas Medical Society in relation to voluntary prepaid medical care programs and its special endorsement of Blue Shield and to urge that a similar resolution be adopted by the American Medical Association.

The following amendments to the Constitution and By-Laws of the Kansas Medical Society were approved:

#### Amendments to the Constitution

Article I. Name of this Society. Add—hereinafter called the Society.

Article IV. Composition of this Society. Section 2 shall be amended to read:

Section 2. The officers of this Society shall be a president, a president-elect, a first vice president, a second vice president, a secretary and a treasurer. All officers shall be elected by the House of Delegates of this Society for terms of office as are hereinafter provided.

Section 5 shall be added to read:

Section 5. The delegates to the American Medical Association shall be those members elected to represent this Society in the House of Delegates of the American Medical Association.

Old Section 5, now 6, shall be amended to read:

Section 6. The members of this Society shall be the active members in good standing of the component societies, military service connected members, members on leave of absence, the members in good standing of other societies approved by the Council and the honorary members who are elected as provided by the By-Laws.

Old Section 6, now 7, shall be amended to read:

Section 7. Guests properly registered and personally vouched for by a member may be admitted to the scientific work of the annual or called sessions.

Article VI. Council. Section 1 shall be amended to read:

Section 1. The Council shall consist of one councilor from each councilor district, and in addition the officers of the Society and the delegates to the American Medical Association.

Section 4 now reads: The president shall serve as the presiding officer of the Council. This section shall be deleted.

Article VII. House of Delegates. Section 3 now reads: The president shall serve as the presiding officer of the House of Delegates. This section shall be deleted.

Article VIII. District Societies. Now reads: The House of Delegates and the Council may provide for the organization of such district societies as will promote the best interests of the medical profession:

provided, that each district society shall be composed exclusively of members of component societies within that councilor district. This article shall be deleted and subsequent articles renumbered consecutively.

Former Article IX now Article VIII. Annual Sessions. Section 1 shall be amended to read:

Section 1. This Society shall hold annual sessions which shall be open to all registered members and guests.

Former Article X now becoming Article IX. Terms of Office and Elections. Section 1. The clause "and shall continue until the close of the following annual session" following the definition of terms of office, shall be deleted as superfluous.

Former Article X now Article IX. Section 2 shall be amended to read:

Section 2. The officers shall be elected by the House of Delegates at the last meeting of that body in each annual session and in the manner provided by the By-Laws.

Section 3 shall be amended to read:

Section 3. The elections to fill expired regular terms or unexpired terms of councilors shall likewise be held at the last meeting of the House of Delegates of each annual session.

Former Article XII now Article XI. Section 2 shall be amended to read:

Section 2. The Council shall elect one of these members as editor of the Journal of the Kansas Medical Society and as chairman of the Editorial Board each year.

Former Article XIII now Article XII shall be amended to read:

Funds of this Society shall be raised by an equal annual per capita assessment collected by each component society.

Former Article XV now Article XIV. The middle of Section 2 shall be amended by the deletion of the words "diligent and careful" and substituting therefore the word "proper."

#### Amendments to the By-Laws

Chapter I. Membership. Section 1 shall be amended to read:

Section 1. The name of a physician appearing on the properly certified roster of members of a component society which has paid the full amount of his annual assessment, shall be prima facie evidence of membership in this Society.

Chapter II. Assessments. Shall be amended to read:

Section 1. The amount of the annual assessment for the Kansas Medical Society only shall be not more than etc., and by the addition of Section 2.

Section 2. Assessments shall include subscription to the Journal of the Kansas Medical Society at a



rate determined by the Editorial Board with the approval of the Council.

Chapter IV. General Meetings and Sections. Section 3 shall be amended by the elimination of the two words "or commissions."

Chapter V. House of Delegates. Section 3 shall be amended to read:

Section 3. Each component society shall elect to the House of Delegates each year one duly qualified delegate and one alternate for every 20 members or major fraction thereof: Provided, that each component society which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to at least one duly qualified delegate. It shall be the duty of the secretary of each component society to send to the executive secretary of this Society a list of delegates and alternates of that society at least 30 days prior to each annual session.

Section 5 shall be amended to read:

Section 5. In the event that an elected delegate shall find it impossible to attend an annual or special session of the House of Delegates, his alternate shall qualify himself to the Committee on Credentials to serve instead of the elected delegate. In the event a particular component society is not represented by either delegate or alternate at a meeting of the House of Delegates, that body by majority vote may elect a member of that component society to serve as a delegate for that meeting.

Section 9 which details order of business of meetings of the House of Delegates shall be amended in the portion specifying the election of delegate-elect to the American Medical Association by the inclusion of an alternate for that position, making that portion read "delegate-elect and alternate to the American Medical Association."

Section 17. That portion which now reads: Alternate or alternates shall be elected each year for two-year terms, who may be certified to substitute for any delegate unable to attend an annual or interim session during his term of office, shall be deleted and a new Section 18 inserted to read:

Section 18. An alternate to the delegate-elect shall be elected each year who shall be certified to substitute for that delegate in case of removal, resignation, or inability to attend an annual or interim session during his term of office.

Present Section 18 then becomes Section 19.

Chapter VI. Election of Officers. A new Section 1 shall be inserted and present Sections 1, 2 and 3 shall be renumbered so as to be Sections 2, 3 and 4 respectively.

Section 1. A Nominating Committee of five shall be selected by ballot from all living past-presidents at the last meeting of the House of Delegates of

each annual session, the committee to consist of five receiving the greatest number of votes and in case of tie vote on the fifth member the committee will consist of six instead of five. The past-president receiving the greatest number of votes shall be the chairman. No past-president may serve on more than two consecutive annual committees; the committee shall meet not later than 90 days prior to the next annual session and present for publication in the Journal a list of two or more candidates for each elective office.

Section 2, becoming Section 3, shall be amended to read:

Section 3. All elections of officers shall be by secret ballot unless a single candidate is nominated for an office, whereupon the vote may be taken viva voce. If upon any ballot on more than two candidates no nominee shall receive a majority, the name receiving the smallest number of votes shall be dropped and the balloting continue in that manner until a majority is obtained. Nominations for all offices may be made from the floor in addition to the recommendations of a nominating committee.

Chapter VIII, Section 4 shall be amended to read:

Section 4. The Council is authorized to organize and issue charters to single or multi-county component societies.

Present Section 5 which provides for district societies is hereby deleted. Section 6 is retained, Section 7 becomes Section 5 and Sections 8, 9 and 10 become Sections 7, 8 and 9 respectively.

Chapter VIII. Present Section 11 now becoming Section 10 shall be amended to read:

Section 10. In the event of a death, resignation, or removal in the office of second vice president, secretary, treasurer, or a councilor, the Council shall elect a successor to fill the vacancy. At the next annual meeting of the House of Delegates a caucus of delegates from the councilor district affected shall select a councilor to complete the regular three-year term. When such replacement term shall be for two or more years, the member selected shall be eligible to re-election for only one regular term.

Chapter VIII. Sections 12 and 13 becoming Sections 11 and 12 shall be condensed to form a new Section 11 to read:

Section 11. The Council shall meet at the conclusion of each annual session and at intervals during the year at the call of the president or on petition of five members of the Council. Adequate notice shall be given as to time and place.

Present Section 14 becomes Section 12. It shall be amended to read:

Section 12. Eleven members of the Council shall constitute a quorum.

Section 17 becoming Section 15 delineates the

duties of councilors. This shall be amended by the addition of the following paragraph:

Each councilor shall be designated by the president as council representative to certain committees. He shall attend those committee meetings, reporting activities to the Council and when necessary secure Council approval of work undertaken or proposed.

Chapter XI. Committees. Section 1. Committees are alphabetically arranged and numbered consecutively. Present Committee on Insurance and Industrial Medicine, No. 29, shall be changed to the Committee on Industrial Medicine and becomes No. 21 and consecutive numbering of following committees is changed.

Chapter XI. Present Section 22. Committee on Medical Economics. Wording is amended to conform to present committee assignments as follows:

Section 22. The Committee on Medical Economics shall consist of at least five members. The duty of this committee shall be to investigate matters affecting the status of medical economics including indigent care, border line income conditions for medical care, accident, health and hospital insurance to individuals or groups and Social Security problems, etc. They shall advise the officers and the Council from time to time and the House of Delegates annually as to their findings and recommendations for means by which this Society as a whole, the component societies as units and the members as individuals may improve the economic status of the public and the medical profession. At least two members of this committee, one of whom is the retiring chairman, shall have served on the retiring committee.

Chapter XI. Present Section 29 to become Section 21 formerly known as the Committee on Insurance and Industrial Medicine shall be amended to read:

Section 21. The Committee on Industrial Medicine shall be composed of at least five members. It shall be the duty of this committee to study and become intimately acquainted with every movement agitated, proposed or attempted to enact or be enacted, that has for its object either secret or avowed the providing of industrial or compensation health, and/or accident medical insurance for public service or commercial employees of persons, companies or corporations either collectively or singly which affects the economic or financial status of the members of this Society, to represent this Society in efforts to secure greater cooperation and greater mutual understanding between medical men and employers of labor or their insurance carriers concerning the rendition of professional services in industrial cases and the amount and character of compensation therefore; to devise and advise whenever

intelligent action on the part of this Society is desirable upon these questions and to report in writing its findings, recommendations and information obtained to this Society or to the House of Delegates. A portion of its members and whenever practical the retiring chairman, shall be included in its membership.

Chapter XII. Section 14 now reads: The secretary of each component society shall forward the assessment of that society, together with its roster of officers, members and list of non-affiliated physicians to the executive secretary on or before the first day of February of each year. Section 14 shall be amended by the addition of the following:

As a personal convenience to members desiring American Medical Association membership, the secretary of each component society may transmit through the central office of this Society individual checks or funds for membership assessments of that organization.

Chapter XI. Section 1. The Blue Shield Relations Committee shall be added to the list of standing committees and placed in the regular alphabetical list of committees.

Chapter XI to be Section 9. The Blue Shield Relations Committee shall consist of a chairman and not less than one member practicing or residing in each of the Councilor Districts. It shall be the duty of this committee to work closely with the Blue Shield organization in all matters pertaining to professional relations of Society members participating and shall report the results of its work from time to time to the Council and annually to the House of Delegates. A portion of this committee shall have served on the retiring committee.

The Chairman of the Constitution and By-Laws committee together with the executive secretary shall be authorized to make necessary changes of wording and structural changes not interfering with the intent or meaning before reprinting the Constitution and By-Laws.

The meeting was concluded with the election of officers, listed elsewhere in this issue, and the announcement of the resignation of Dr. H. H. Jones, Sr., Winfield, first vice president, because of ill health.

#### President's Address

It seems only a short time since I talked to you about the year ahead. One year has passed since that time. The time has seemed quite short—too brief to accomplish so many things we had hoped to accomplish. Someone asked me how I was getting along as president of the Kansas Medical Society. I told them that, by some standards, I apparently was not doing so well. An entire year has passed and my wife still does not have a deep freeze.



The Kansas Medical Society has always been progressive. The last few years, it seems, have become more so. Your activities have gained national recognition. We have successful manufacturers—we might use General Motors as an example. They have seen to the distribution of their products in each town and village all over this vast country. I fear that we have not done quite so well as a profession. Medicine has made unpredictable advances during the last generation. We have much to offer the people, both in the field of preventive medicine and in curative medicine. We have taken definite and effective steps to increase the number of our distributors by enlarging the capacity of our medical schools. We are training many of these distributors to become general practitioners. This is our means of extending medical care to all of the people of our state—the rural people as well as the urban population.

The need for more doctors in rural areas has become a national problem. We have a definite workable plan with which to solve that problem. We are producing more doctors. We have sold small towns and villages on the idea that they must do their part in obtaining medical care. They must provide the equipment necessary for a doctor to practice modern medicine. We have emphasized the necessity for the small village to become a more attractive place in which to live. I know of one small town which has paved part of its streets, graveled the remainder of them, and built a modern office with x-ray equipment. The object of this activity is to obtain a resident doctor. Their building program is not completed, they are not quite ready for a doctor. However, I am sure that they will have a progressive young doctor locating in their town soon.

We have developed, over the years, a postgraduate system which is going to insure the rural practitioner that his medical education will remain modern. The vision of a superlative medical school within our state is being fulfilled in a manner which should be pleasing to everyone. During the last year, our standing committees have been very active. They have done a tremendous amount of work. I would like to make some personal references at this point, but I would not know where to stop. So many of you have been very generous with your time and have accomplished much. Our Mid-Winter Cancer Conference held in Wichita was well attended. We have many to thank for the success of this meeting. I think it is only proper that we particularly mention Dr. Howard Snyder and Dr. Orville Clark. A society for the study of heart disease was organized. This is good news for the heart patients.

In the field of mental health our Society has been

very active. Our Mental Health Committee has put in many long hours and has had many meetings during the year. Particularly, I wish to express my personal appreciation of their effective cooperation. I think it only proper that we, as a Society, thank the Menninger group for the contribution they have made to mental health, not only in Kansas but on a national level.

Your Society has been effective in establishing a rather close contact between the A.M.A. and the National Farm Bureau Federation. As one interested in seeing a private enterprise preserved, I wish to thank Mr. Allan B. Kline for his activities in that field. It is not our province to enter into the activities of other organizations, but we cannot help being concerned about the Brannan Plan—a plan in the field of agriculture which might result in complete socialization of the entire country as rapidly and effectively as socialized medicine might.

It is very pleasing to note that as a profession we are entering into our community activities as we should. More than 60 of us belong to the State Chamber of Commerce. A year ago there were only 10 or 12 of us who belonged to that organization. This is as it should be, particularly if we expect the businessmen to be interested in our problems. I have enumerated only a few of our activities.

The hospital program for our state is progressing very rapidly. In some parts of the state we unquestionably have too many hospital beds. We feel that they are going to be a burden to the people to support. However, that is better than having some locations existing without any hospital at all as they did 20 years ago.

The practice of medicine today, as compared to 40 or 50 years ago, must be accepted with the realization of a tremendous responsibility. Many practitioners of a generation ago were equipped only with a stethoscope, fever thermometer, a few drugs, and a meager supply of instruments, usually a pair of obstetrical forceps. They were without hospitals, without antiseptics, without properly sterilized dressings, with only a meager knowledge of surgical technics, and with relatively few effective drugs as compared with modern standards. It was not their responsibility to decide concerning radical surgical procedures.

Every doctor should make it a definite planned program to make a worthwhile contribution to his profession, to cooperate with his fellow practitioners. Few things are accomplished by accident. Intelligent planning, planning backed by thinking, produces practical results.

The problems of medicine are my problem and your problem. Democracy means personal responsibility, often unselfish sacrifice of secondary personal

matter to preserve personal freedom. Seldom do we fully appreciate what it means. Once lost, the recovery is measured not in weeks or months or years but in decades.

#### Report of Journal Editor

Your Journal Board, composed of Lucien R. Pyle, editor, Orville R. Clark, Dwight Lawson, John W. Cavanaugh, Richard Greer and the associate editors, Donald P. Trees and Glen R. Shepherd, wishes to submit the following report of the interesting activities of the Journal of the Kansas Medical Society for the past year.

The Board wishes to thank the contributors to the scientific section of the Journal for the 76 scientific articles and case reports that have been published and the 20 or more articles that are now being reviewed by the Board. In the main, these articles have been of definite scientific value. We wish to urge those authors to whom we have returned articles for editing, to work over the material and submit it to the Board again. We do not feel that it is our job to edit, rewrite, rearrange and generally overhaul the papers that are submitted to us, because, after all, we may not be able to interpret the author's point of view. You must remember that the cases that you are reporting may be very clear in your own minds because the many little details that you will not get down on paper will make it so. But the absence of those details will not make your premise clear to a reader not well acquainted with that particular case. We are sorry to have returned some good papers to the authors with the suggestion that they be submitted to more technical journals. We have felt that those papers were without the scope of our Journal and the majority of our readers. Please remember that we can make the Journal only as valuable as the observations, conclusions and organization of the scientific material by the varying authors permit. For, after all, that is the reason that we publish the Journal.

In August of 1949 the Journal published the first annual Cancer Supplement. The material for this supplement was obtained from the First Mid-West Cancer Conference held in Wichita in January, 1949. The Second Annual Cancer Supplement will be distributed with the August, 1950, issue of the Journal. We are deeply indebted to the Kansas Division of the American Cancer Society for this fine scientific material and for their financial assistance in publishing it.

During the past year, at the suggestion of your Board, Miss Farrell prepared and sent out a questionnaire to all of the members of the Kansas Medical Society. It was our thought that this was the best method to obtain information as to what our readers expected of the Journal, what we might add,

and what we might delete. We were pleasantly surprised to obtain 467 replies. We have tabulated and analyzed the returns and wherever practical or requested by a sufficient number of the membership, we have attempted to follow the suggestions.

After approval from the Council, the Board has sent complimentary copies of the Journal to the junior and senior students of the University of Kansas School of Medicine. The 1949 graduates of the School of Medicine are receiving copies of the Journal as a gift of the Kansas Medical Society. It was our opinion that this small gesture would be of inestimable value in the future of the rural health program in Kansas.

The Board regrets the resignation of the two associate editors, James B. Weaver and C. A. Hellwig, during the past year. We appreciate their very fine services to the Journal. The Council has appointed Donald P. Trees and Glen R. Shepherd to fill the vacancies. Dr. Shepherd was entirely responsible for the very fine University of Kansas School of Medicine issue in March.

Miss Pauline Farrell, our managing editor, has been ever faithful to our aims and mindful of our needs. In military lingo, hers has been a job "well done."

Oliver Ebel, whose title on the mast is business manager, has been the producer of the section on socialized medicine as well as more than his share of the editorials. Even though, as he says, this is only a part of his job as secretary of the Kansas Medical Society, your Board takes this one annual privilege of publicly expressing to him its appreciation.

In the analysis of the questionnaire, we were indeed gratified to know that so many members of our Society read the advertisements in the Journal and were pleased to learn that they patronized our advertisers whenever practical. The advertisers make the Journal possible.

Although the official audit of the finances of the Journal is not yet available, the income for the Journal for last year was approximately \$16,000 and the expenditures approximately \$17,500, with an operating loss of about \$1,500.

As editor of the Journal, I want to thank each member of the Editorial Board, Miss Farrell, Mr. Ebel, and the members of the Council for the fine services and wise counsel that they have rendered in behalf of the Journal.

#### Secretary's Report

It is now five years after the close of the war. Those hundreds of Kansas physicians who volunteered to serve with the armed forces are back and our Society is functioning at a normal level again. Perhaps this might be an appropriate time for review and to spend a moment in looking ahead. It



will be brief, touching only points that serve as examples of the direction in which the Society is going and will not delay the progress of this meeting. It will be an analysis of what your Society is trying to do. This is a problem in navigation, if you please. You have a selected objective, in fact a series of objectives in mind. Now, would you stop to consider if your current direction is proper for reaching these goals.

First a word about the objectives. They are reasonably well defined and can be disposed of in a moment. As physicians you want to render the finest possible medical care to the people of this state, and you want a uniformly high standard of quality. As individuals you want adequate facilities to work with, the respect of your colleagues and some time for your family and recreational activities. As citizens you want to preserve free enterprise and democracy in the spirit of those generations that made America. Perhaps there are more objectives but these will go a long way toward making the Kansas Medical Society the public service organization you want it to be.

Now, how are we progressing? What are we doing to achieve these objectives? Is our navigation accurate?

Item one is in two parts, the first of which concerns the type of care you are giving the people. If you need evidence on this subject, you have only to turn to vital statistics records of Kansas, to the lengthening life span, to the reduced average hospital stay. That speaks with an eloquence that even Oscar Ewing with his millions for propaganda cannot shout out of people's minds.

The second section of part one dealing with a uniform high standard of quality is not so easy to answer. Here we face an internal and external problem. Internally we still have physicians who do not always give each patient the benefit of the best that medical science has to offer. Each time this happens, whether the problem is scientific, economic or sociological, the entire profession pays a huge penalty because the misdeed is charged to the public relations account of every physician in the state.

The progress report on this category is not entirely optimistic, although machinery for making it work is available. We have a well established graduate education program at the medical school and in our circuit courses. The state meeting brings outstanding specialists to our door and the county society meetings provide a continuing education. Therefore, everyone has the opportunity to keep in touch with scientific advancement if he chooses to.

There are also other factors at work. The Kansas Plan has brought many physicians into the state and into rural areas so the natural consequences result-

ing from competition should provide a beneficial result to the public, but this works best if friendly cooperation exists. And then there are the grievance committees that can work public relations miracles if thoughtfully and seriously conducted. Much should be said about each of these factors, but my promise to Dr. Peck that this must be brief prohibits elaboration. I wish to make only one comment on grievance committees.

I sincerely hope this House of Delegates will stimulate the organization of grievance committees in all societies. Personally, I dislike the name because they deal more in interpretation than in punishment, more in explanation than in complaint, more in cooperation than in segregation. May I cite for your observation the experiment currently being tried by the Wyandotte County Society—placing lay persons, the purchaser of your commodity, on this committee together with doctors.

That is the machinery, but in my humble opinion it must be used more effectively. Believe me, this is not intended to imply that the problems are widespread. They are not. Kansas is remarkably fortunate in the idealism displayed by its doctors. In fact, I believe you could challenge any state on that basis without fear of embarrassment. However, the problem exists. Again, we are speaking about uniformly high standards of quality, and if we choose to set our course toward achieving that objective we must find a means of enforcing the principles in which we believe. The machinery is here; we need only the will to put it in motion to answer the most serious charge that the public makes against you.

So much for the internal problem. Perhaps it could be discussed in detail by your Council and at county society meetings. This problem of a uniformly high standard of quality also has an external aspect. The tight emotional appeal that goes with medical care and the elusive, often subjective, nature of your work provides a mecca for charlatans and quacks. Their presence today is nothing new in the history of medicine; nor is the public acceptance of such fakery anything that the world has not witnessed before. In facing this problem you have been magnificent and practically alone. You charted this course long ago and to this day have defended the integrity of your position without compromise or defeat. Here the course is clear and the direction in which you are going a sure one. You have said in effect that the requirements for the practice of medicine and surgery include graduation from a Grade A school. Any school meeting those qualifications may present its graduates (if they can meet requirements of citizenship, etc.) for examination for a Kansas license. It makes no difference by what

symbol he chooses to identify himself, that doctor has completed an education comparable to your own. Until that has been accomplished, his cannot be the rights given to you, for there shall be in this state one high standard of medical care. This standard shall be available to all who wish to comply with its regulations, nor will the public be confused on the issue, whatever its sentimental approach, as long as the integrity of our position is maintained.

Your course relative to part two, dealing with adequate facilities, has also been charted. Hospitals are being built in rural areas, additional doctors are coming into small communities, and specialists fully qualified to cope with virtually any problem may be found in most general sections of the state. Our Kansas Plan has worked. There are still communities looking for medical care, there are still communities wanting to build hospitals and health centers, but the overall picture is good. We will continue to work toward the goal that you have charted and your executive office will cooperate as we have in the past with the medical school and the Kansas State Board of Health in trying to find physicians for all communities that need them.

However, there is a problem that is already present which will make itself acutely felt in the near future. That is the over-building of hospitals. You of all people need not be reminded of the cost of hospital operation, the problems of staff regulation, etc., but somehow the public must be acquainted with this situation. Many communities believe that if they build a hospital they will get a doctor. You know that isn't any more the complete story than to say your patient is ill if he has a temperature. Reduction in hospital stay, transportation, good roads, new biological substances, all enter this picture and a thousand other factors besides. Federal grants have helped many communities but this small financial inducement is no panacea and can bring the community a tangible headache to replace the vague feeling of longing it experienced before.

Perhaps this is not entirely our problem. Whether yes or no, and I believe the public could make a case against us, it does give us an opportunity to be of service, the service in this instance being a full explanation of hospital benefits and liabilities—a clear report for the public to understand. Then, along with this, we must also explain to the physician that he might travel a few miles to a good hospital in preference to having a struggling inadequate facility at his doorstep.

Point three, dealing with free enterprise, could be the subject of a book. You have made marvelous progress in this direction during the past five years, and in the future you will accelerate the tempo of these activities. You have made your beliefs known

to the public and have obtained support from individuals in all walks of life. You have enlarged the scope of your activities beyond the battle on socialized medicine to include all phases of living. You have united with other professions and industry and labor to challenge further infringements of your liberties on the part of government.

But you have gone even farther than that. Perhaps this can best be described by summarizing a paper Dr. Peck gave last winter before the A.M.A. conference on public relations. His topic was the Kansas Plan. What he said was that we are interested in providing good medical care for all Kansas communities—yes—but the Kansas Plan is based on a desire to make all Kansas communities better places in which to live. This means getting better schools and libraries and living facilities. It unites the efforts of the chamber of commerce with the church, the housewife and the waitress in the cafe, the banker and his farm neighbor, the doctor and the hardware merchant. It embodies projects of school lunches and lights for Main Street, sanitation and the high school operetta, the church ice cream social and the 4-H Club.

In that concept the doctor becomes a part of every phase of community living—a vital force in raising the self respect of a city—and, incidentally, an exponent of public relations in its highest tradition. Your achievements on this plane are a matter of record, a noble record that will endure for a long time to come. We in your executive office again pledge to you our continued effort to serve your wishes and in a program of this magnitude that task becomes increasingly a challenge to us and your example an inspiration.

In Memoriam  
Dr. J. F. Hassig

The old story of the Doctor John Goodfellow "Office Upstairs" has a particular significance for this occasion.

The friends, neighbors and patients he so unselfishly served and counseled through all the years of his practice marked his final resting place with his old weather beaten sign which read, "Doctor John Goodfellow, Office Upstairs."

Doctor John Frank Hassig was truly a good fellow. His life was a tribute worthy of an office upstairs. Throughout his life he reflected exemplary ideals and characteristics which did and always will inspire others to get upstairs.

His kindly counseling and friendly touch were always within the reach of everyone.

His life spanned the era of the family doctor who knew the domestic, financial, physical and moral problems of everyone along his route. He was never too busy to give heed to their welfare, rebuke them



for their shortcomings and inspire them in their worthy adventures.

Humility balanced the reverence of some and the awe of others. His wisdom was available to grandparents and their grandchildren alike.

It was natural for people to like him. He liked people. His interests were not confined to his patient's disease. He always knew something about the person who brought in the disease.

He always knew something good about everyone. He had no time to condemn his fellow men. Those who condemned themselves learned that he had patience like Job and wisdom like Solomon.

His acquaintances spanned the nation. He could converse intelligently with the medical student or the medical patriarch. He was Uncle Frank to all who knew him. Medicine was his forte, but he never lost contact with the needs of his fellow men.

He was a rugged advocate of justice for all. He had the courage to express his convictions about any issue that would reflect honor to his profession and benefit to the people it served.

His devotion was to others. He constantly made personal sacrifices in their behalf. He withstood rebuke nobly and successfully rebuffed enterprising agents of chicanery.

Even death was a tribute to Uncle Frank. It came at the end of a long life, full of good deeds, as a call from above saying, "You have fought a good fight, you have finished your course, come therefore to your office upstairs."

It was a fitting tribute that his friends and colleagues paid him on his departure. They saw him, as it were, boarding the plane that bore him out into the great beyond. They watched with mingled feelings of pride and regret as the plane diminished to a mere speck and disappeared beyond the horizon.

They could visualize perhaps the expansion of that speck as it approached the other port and the crescendo of applause by former colleagues, patients, neighbors and the members of his family who were waiting at the new office he had built upstairs.

**First Distinguished Service Award  
Dr. J. L. Lattimore**

Inspired leadership in the Kansas Medical Society has achieved unity in the profession, high ethical standards of medical practice, and broad public service toward the end that the people of this state might be assured of the highest quality of care.

Many medical and lay persons have contributed toward the achievement of this very practical idealism, but without detracting from the gratitude deserving to all others, the Sedgwick County Medical Society begs leave to pay tribute to an active member of the Kansas Medical Society and cites but a

few of the contributions of this man to support an unusual but wholly appropriate action.

It has been the privilege of a few to serve on committees, to fewer still has been given the honor of sitting in the Council, and to the most select has been entrusted the solemn responsibility of being president. This doctor has years ago magnificently discharged his responsibilities in each of those offices, but he continues to serve his profession and the people of Kansas in ever broadening spheres of influence.

His professional recognition expanded to national scope when his specialty board elected him president. In Kansas he is continually drafted by the Society to serve as treasurer, and at the same time is the progressive and dynamic president of Kansas Blue Cross.

This, of course, could be none other than Dr. John Lattimore. His achievements will not easily be equalled, his influence will not soon be forgotten, and the respect and admiration he commands of all who know him will remain forever.

It is, however, for a different purpose that this statement is prepared. It is for his service beyond the call of duty, for his devotion to this practical idealism in medicine, for his uncompromising integrity in the face of criticism and misunderstanding, that this is presented. Without hope for reward, Dr. Lattimore has made untold sacrifices to serve not only medicine but the people as a representative in the Kansas Legislature. Here he successfully challenged every effort to reduce the quality of medical care and has brilliantly championed those programs that improve the conditions of health in this state.

Any attempt to express the gratitude of this Society pales before the debt that is owed him. We believe, however, that the least we can do is to give him an expression of appreciation, and therefore ask the unanimous and enthusiastic endorsement of this Society for the following resolution:

**BE IT RESOLVED THAT** the Kansas Medical Society award to Dr. John L. Lattimore the first distinguished service citation in its history, that this be engraved on parchment and be presented to him, and that the president announce this action of the House of Delegates at the 91st Annual Banquet of the Kansas Medical Society by reading the citation as follows:

"For years of outstanding service to the medical profession and to the people of this state in all fields of health, for inspired leadership, for uncompromising integrity, for sustained practical idealism, the Kansas Medical Society presents to John L. Lattimore, M.D., its first distinguished service award."

### General Practitioners Elect Officers

New officers for the Kansas Academy of General Practice were named at a breakfast meeting held at the Allis Hotel, Wichita, on May 17. Dr. Charles L. White, Great Bend, who took office as president at that time, will be assisted by the following: Dr. George L. Thorpe, Wichita, president-elect; Dr. A. C. Harms, Kansas City, vice president; Dr. Clovis W. Bowen, Topeka, secretary-treasurer. Directors are Dr. Clyde Miller, Wichita; Dr. Lawrence Leigh, Overland Park, and Dr. W. M. Brewer, Hays.

### EENT Group Chooses Officers

Kansas physicians specializing in eye, ear, nose and throat work held a business session during their two-day scientific program at the time of the Kansas Medical Society annual meeting. Dr. Maurice J. Ryan, Kansas City, was named to head the group as president; Dr. Will D. Pitman, Pratt, vice president; Dr. Dale D. Vermillion, Goodland, secretary.

### Editorial Board Appointment

Dr. John W. Cavanaugh, Topeka, was reappointed to a three-year term on the Editorial Board of the journal of the Kansas Medical Society at the annual meeting of the Society. Dr. Lucien R. Pyle will continue as editor. Others on the Board are Dr. Orville R. Clark, Dr. Dwight Lawson and Dr. Richard Greer, all of Topeka. Associate editors are Dr. Glen R. Shepherd, Kansas City, and Dr. Donald P. Trees, Wichita.

### Three to State Board

Three Kansas physicians were appointed to the Kansas State Board of Medical Registration and Examination on May 22 by Governor Frank Carlson. Dr. O. W. Davidson, Kansas City, was named to fill the unexpired term of the late Dr. J. F. Hassig, the term to end April 30, 1951. Dr. Noble E. Melencamp, Dodge City, and Dr. Lyle E. Schmaus, Iola, were appointed to four-year terms ending April 30, 1954.

Those previously serving on the board, and the dates on which their terms expire, are: Dr. Murray C. Eddy, Hays, April 30, 1951; Dr. H. E. Haskins, Kingman, April 30, 1952; Dr. M. C. Ruble, Parsons, April 30, 1952; Dr. J. D. Colt, Jr., Manhattan, April 30, 1953.

### Radiological Society Meets

A breakfast meeting of the Kansas Radiological Society was held May 17 at the Broadview Hotel, Wichita. Twenty-two of the 24 members were present, as was one guest, Dr. M. J. Cox, a diplomate

of the American Board of Radiology, who recently moved to Dodge City.

The accomplishments of the society were reviewed, and several business matters were discussed. A letter was written to the House of Delegates of the Kansas Medical Society, asking them to vote in favor of the Hess Report. A fee schedule for x-ray therapy, to be included in the Blue Shield plan, was directed to the Blue Shield for decision. Plans were made to send a letter to the Kansas Hospital Association stating the willingness of the Kansas Radiological Society to assist in planning and starting x-ray departments in new hospitals and arranging fee schedules. The group approved the objectives of the Kansas X-ray Technicians' Society and agreed to help in arranging programs and in sponsoring prize money to promote increased interest in film exhibits.

Noting that a nationally known radiologist has never appeared on the scientific program of Kansas Medical Society annual meetings, the organization went on record to extend greater efforts in their attempt to place radiologists on those programs.

Officers of the society are: president, Dr. Leland Glaser, Hutchinson; vice president, Dr. Harold Woods, Topeka; secretary-treasurer, Dr. Anthony F. Rossitto, Wichita; board of governors, Dr. Glaser, Dr. Woods and Dr. Rossitto.

### Anesthesiologists Name Officers

Dr. Harwin J. Brown, Winfield, was elected president of the Kansas State Society of Anesthesiologists at a meeting held at Wichita May 15. Dr. R. S. McKee, Leavenworth, was named vice president; Dr. Harold F. Spencer, Emporia, secretary; Dr. Ray T. Parmley, Wichita, treasurer.

### Pathologists Meet at Wichita

The Kansas Society of Pathologists held a meeting at the Lassen Hotel, Wichita, on May 17. One guest, Dr. Russell Kerr of Kansas City, Missouri, president of the Missouri Society of Pathologists, was present.

At this meeting the organization, now a year and a half old, adopted a constitution. Several business matters were discussed, including a proposal for a series of meetings to discuss medico-legal problems in Kansas.

Officers were elected as follows: president, Dr. W. W. Summerville, Kansas City; vice president, Dr. L. C. Murphy, Hutchinson; secretary-treasurer, Dr. A. A. Fink, Topeka.

The next meeting of the group will be held in September with Dr. Bert E. Stofer, Wichita, as chairman.



### Psychiatric Society Elects

The following new officers of the Kansas Psychiatric Society were announced recently: president, Dr. J. T. Naramore, Larned State Hospital, Larned; vice president, Dr. Frank F. Merker, Winter VA Hospital, Topeka; secretary-treasurer, Dr. J. M. Mott, Topeka State Hospital, Topeka; counselor, Dr. Thomas L. Foster, Hertzler Clinic, Halstead.

### Medical Assistants in Annual Meeting

A two-day meeting of the Kansas Medical Assistants' Society was held at the Allis Hotel, Wichita, May 14 and 15. Berenice Asher, Lawrence, took office as president at the close of the meeting, and the following new officers were elected: president-elect, Maxine Williams, Kansas City; vice president, Connie Jackson, Wichita; secretary, Marguerite Mason, Lawrence; treasurer, Ethel Frey, Topeka; counselors, Virginia Foster of Winfield and Bernice Ford of Emporia.

### Sports Events at Annual Meeting

The usual sports events, golfing and shooting, occupied the attention of physicians attending the 91st annual session of the Kansas Medical Society at Wichita, May 15. Favorable weather made it possible for a large number to take part in the proceedings and attend the annual tournament banquet at the Broadview Hotel that evening.

Dr. H. Lee Barry, Wichita, had championship low gross score in the golf tournament and was awarded a golf bag provided by VanPelt and Brown. Dr. C. J. Mullen, Kansas City, had low net and was given a picnic hamper, a gift from Archer-Taylor Drug Company. Dr. Ed Ashley of Chanute, second low gross, won a prize contributed by Maule Drug, and Dr. R. A. West, Wichita, second low net, received a prize from Doho Chemical Corporation.

Ratings, prize winners and prize donors for the first flight were: low gross, Dr. M. W. Hall, Wichita, Coufal X-ray Corporation; low net, Dr. C. C. Parmley, Wichita, A. S. Aloe Company; second low gross, Dr. E. S. Edgerton, Wichita, S. A. Long Company; second low net, Dr. F. N. Bosilevac, Kansas City, Doho Chemical Corporation. For the second flight: low gross, Dr. T. T. Taylor, Norton, Mead Johnson and Company; low net, Dr. George Milbank, Wichita, Bausch and Lomb Optical Company; second low gross, Dr. George Marshall, Colby, Burroughs Wellcome and Company; second low net, Dr. Orville Clark, Topeka, Ciba Pharmaceutical Corporation. For the third flight: low gross, Dr. F. J. Bice, Hays, Mead Johnson and Company; low net, Dr. G. G. Whitley, Douglass, Burroughs Wellcome

and Company; second low gross, Dr. G. R. Tonn, Wichita, Goetze-Niemer Company; second low net, Dr. W. H. Browning, Wichita, Zemmer Company. A special prize for the oldest golfer, Dr. J. A. McLaughlin of Wichita, was contributed by the Hawk Pharmacy.

In the trap shooting event Dr. J. L. Jensen, Colby, won an electric broiler contributed by Continental Casualty Company for high score. Other ratings, prize winners and donors were: second high, Dr. William Brown, Paola, American Hospital Supply Company; third high, Dr. E. A. Smiley, Junction City, Mead Johnson and Company; fourth high, Dr. George Gill, Sterling, Bausch and Lomb Optical Company; tyro trap, Dr. A. J. Rettenmaier, Kansas City, Ciba Pharmaceutical Corporation.

Dr. George Morrison, Wichita, won high in the skeet shoot and received a picnic set contributed by Keith Eilerts. Others were: second high, Dr. F. B. Poling, Wichita, General Electric X-ray Corporation; third high, Dr. R. R. Cave, Manhattan, Munns Medical Supply Company, Inc.; fourth high, Dr. E. S. Brinton, Wichita, Abbott Company; tyro skeet, Dr. W. A. Smiley, Jr., Junction City, American Optical Company.

Other gifts, given at the banquet as door prizes, were contributed by Lanteen Medical Laboratories, Inc., McCormick Corset Shop, J. B. Lippincott Company, Abbott Laboratories, Medco Products Company, Fox-Vliet Drug Company, S. E. Messengill Company, American Hospital Supply Corporation, S. A. Long Company, Inc., Speer Pharmacy, and Eli Lilly and Company.

### Change in K.U. Faculty

Dr. Sam E. Roberts, chairman of the Department of Otorhinolaryngology at the University of Kansas School of Medicine since 1928, has resigned that position although he will continue as a professor in the department. He has been associated with the school 35 years. Dr. G. O'Neil Proud, 36, instructor in otolaryngology at Washington University, St. Louis, has been named to succeed Dr. Roberts as chairman of the department.

### Miss Owen Resigns

Miss Leanna Owen, who has been employed in the offices of the Kansas Medical Society during the past three years, resigned her position on May 20. A successor has not yet been employed.

August 1 is the date of the primary election. Are you registered to vote?

---

## SOCIALIZED MEDICINE

---

*(Editor's Note. This is the tenth of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.)*

### Inflation

There are countless illustrations of the inflated dollar of which this statement prepared by Mr. Leonard E. Read, president of the Foundation for Economic Education, Inc., is a dramatic example. This, recall, is the current situation before the adoption of such programs as socialized medicine, the Brannan Plan and others.

On February 8, 1950, the New York Times ran this notice with a Boston date-line.

"Ted Williams, the Red Sox slugger, today signed the highest salaried contract in baseball history—for an estimated \$125,000.

"Babe Ruth's \$80,000 salary in 1930 and '31 was tops in the old days."

After federal income taxes, Babe Ruth had \$68,535, Ted Williams \$62,028. Inflation has so shrunk the buying power of the dollar that this is only part of the story. Mr. Williams' real take home pay is only a little over half of Ruth's—57 per cent.

If Ted Williams were to have as much buying power in 1950 as Babe Ruth had in 1931 he would have to be paid \$327,451.

---

## BLUE SHIELD

---

### The Wichita Meeting

Blue Shield had a good week at the annual meeting of the Kansas Medical Society in Wichita. The week began on Sunday, May 14, with one of the most constructive board meetings ever held. The Blue Shield program was discussed at this meeting from all points of view. It was generally agreed that Blue Shield today is in a better position than ever to move forward with the development of a prepayment program for the people of Kansas.

The following officers and trustees were elected at this meeting: president, Dr. Warren F. Bernstorff, Winfield; vice president, Dr. Dwight Lawson, Topeka; executive vice president, Dr. John A. Holmes, Lawrence; secretary-treasurer, Dr. Henry S. Blake, Topeka; trustees, Dr. C. V. Minnick, Junction City; Dr. Millard E. Schulz, Russell; Dr. J. A. Blount, Larned; Mr. Ellis D. Bever, Wichita.

There was another excellent meeting held on Tuesday with the Blue Shield Relations Committee at which plans were made for the physician relations

program for the coming year. The committee agreed that the district Blue Shield Relations Committee should continue to function, should hold meetings during the fall and that a more active program with county societies should be developed.

In line with the policy of the Blue Shield board, meetings were held with the three specialty groups during the week to determine their points of view and to explain the various plans ahead for the ironing out of any difficulties that may exist. An extremely helpful meeting was held with representatives of the Eye, Ear, Nose and Throat Section. These gentlemen were informed of the plans now under way for the establishment by the Kansas Medical Society of a fee committee. There was every evidence of good will between the two groups and of the intention of the E.E.N.T. Section to cooperate with Blue Shield in the development of an equitable payment schedule.

Blue Shield was represented also at the meeting of the Kansas Society of Anesthesiology. At this meeting the anesthesiologists took up the proposal that Blue Shield participate in national accounts in a form of a rider in the Blue Cross Agreement to provide anesthesia services and x-ray services for members enrolled in these large national accounts. A national account is one in which the employer has employees in more than one state. The anesthesiologists voted unanimously to endorse the proposal that Blue Shield underwrite these services.

Blue Shield representatives also attended the meeting of the Kansas Radiological Society in regard to the same question. The radiologists, after considerable discussion, appointed a committee to work with Blue Shield in drawing up the details of the proposal for further consideration by the members of their Society. It was stipulated that the committee should resolve this subject within 60 days.

The foregoing meetings are indicative of the awareness of Kansas physicians that Blue Shield is beginning to play an important part in medical economics in Kansas. There is every indication that the members of the Kansas Medical Society are taking seriously their responsibilities in trying to work out a satisfactory prepayment program for medical care for the people of Kansas. One fact stands out as a result of the various meetings: that when there is full discussion and understanding of the proposals involved, mutual trust and good will result.

---

Patronize advertisers who support your Journal. Mention to them that you see and appreciate their advertising. All products described are approved by the various councils of the American Medical Association.



# Case Report From the University of Kansas Medical Center

## Clinical Pathological Conference Convulsive Seizures and Shock in Infant

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of pediatrics, medicine, clinical pathology, pathology, and the Junior and Senior classes of medical students.

### Case Presentation

A. H., a three and one-half year old white female, was admitted to K. U. Medical Center on November 23, 1949. This child had been perfectly well until 2:00 A.M. the day of admission when she was found in a convulsive seizure with a temperature of  $106^{\circ}$ . These continued despite treatment at home with penicillin and sponge baths. At 10:00 A.M. a generalized purpuric rash was observed. She soon became comatose and was admitted to this hospital at 1:00 P.M.

Physical examination: The child was in coma. Her skin was ashen gray, cold and clammy. There were numerous purpuric spots up to one cm. in diameter over the entire body including mucous membrane petechiae. Temperature was  $102^{\circ}$  F., blood pressure 64/48, pulse 150 and very weak. The ENT was not remarkable. There was no lymphadenopathy. The neck was not stiff. The chest was clear and heart tones were loud. There was a rapid rate but no murmurs. There were no masses or organs palpable in the abdomen nor was there any rigidity. Babinski and Brudzinski signs were negative. Reflexes were not remarkable.

Laboratory examination: Urinalysis on the second day showed some granular casts and 6-10 pus cells per high power field. Blood count on admission showed 4.46 million red blood cells and 83 per cent hemoglobin, 207,000 white blood cells, 84 polys (81 filamented and three non-filamented), 11 lymphs, and five monocytes. The following day the white blood count was 38,000 with essentially the same differential. Blood chemistry showed an NPN of 33, blood sugar of 27, and  $\text{CO}_2$  combining power of 31.9 volume per cent. Spinal fluid: one rbc, no wbc, sugar 54 and culture negative. Blood culture was negative.

Hospital course: The child was treated vigorously with penicillin intramuscularly, sulfonamides, and I.V. fluids including plasma, whole blood, salt and glucose solution. She had a convulsion immediately after fluids were started but was given phenobarbital and seemed to improve remarkably, with improvement in color, return of consciousness and increase in blood pressure to 80/60. Twelve hours after beginning treatment she again went into profound

shock. The temperature rose to  $106^{\circ}$  and blood pressure became unobtainable. I.V. fluids were continued and the patient's condition once again improved. The urine output, which was very scanty the first 24 hours, increased. She seemed to be doing quite well until midnight of the second hospital day when she suddenly expired.

Dr. Delp: Are there any questions?

Question: Was there any cyanosis, headache, or vomiting prior to admission?

Dr. Winter: There is no history of it.

Question: Were cultures taken from the nose and throat?

Dr. Winter: Yes, they showed neisseria which did not have all of the cultural characteristics of meningococcus.

Question: Is there any history of the patient having any contact with patients having tuberculosis?

Dr. Winter: Not that I know of.

Dr. Delp: There was no electrocardiographic tracing on this patient and no x-ray of the chest. Mr. Woods, will you present your differential diagnosis?

Mr. Woods (Student): I think the three essential features of the case are the convulsions, the high fever, and the purpuric rash. With those three features in mind, here is my differential diagnosis.

I first considered rheumatic fever. I ruled it out because there were no heart lesions apparent to

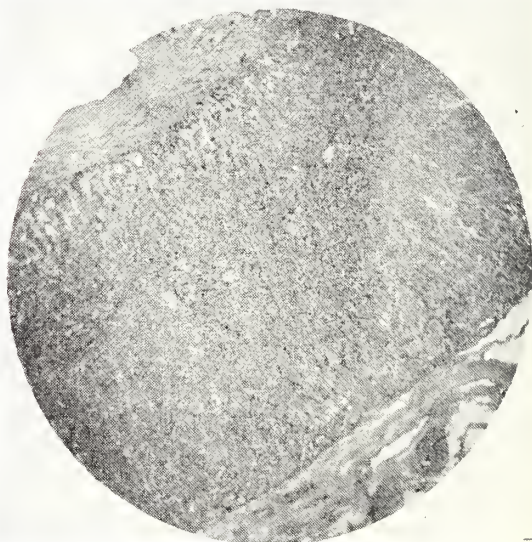
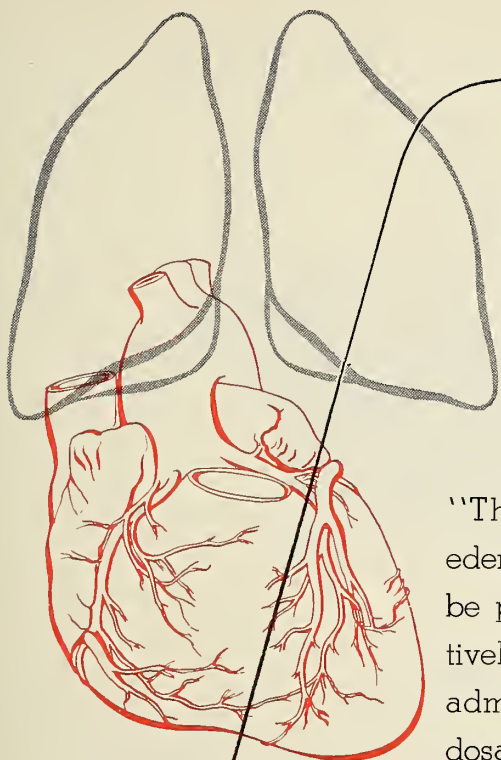


Figure 1

Section of adrenal gland, X60, showing hemorrhagic infiltration with many polys (black dots) as well as disappearance of normal architecture.



## ***PULMONARY EDEMA AND PAROXYSMAL CARDIAC DYSPNEA***

"The development of pulmonary edema at night may in certain cases be prevented and in addition effectively treated by intramuscular . . . administration of aminophyllin in dosages of 0.5 Gm."<sup>1</sup>

The diuretic action of Searle Aminophyllin frees the tissues of excessive fluid; its myocardial stimulating action improves the efficiency of heart contractions.

G. D. Searle & Co., Chicago 80, Ill.



**SEARLE AMINOPHYLLIN\***

ORAL...PARENTERAL...RECTAL DOSAGE FORMS

\*Contains at least 80% of anhydrous theophylline.

**SEARLE** RESEARCH IN THE SERVICE OF MEDICINE

1. Barach, A. L.: Edema of the Lungs, Am. Pract. 3:27 (Sept.) 1948.



physical examination. There were no joint symptoms. There is no previous history of growing pains and usually you do not see rheumatic fever under about five years of age. I considered subacute bacterial endocarditis but I ruled it out because, first of all, the onset was too sudden. There was no enlargement of the spleen. The blood culture was negative for streptococcus viridans, and there were no heart findings in this patient. Usually you don't see fever as high in subacute bacterial endocarditis as you did in this case.

There was some controversy over the white blood count of 207,000. I considered leukemia because it produces purpuric rash and hemorrhages. It usually doesn't produce convulsions, and the onset is not nearly as rapid. The differential count showed no shift to the left. I ruled out leukemia on these features. I considered also some sort of drug rash and ruled it out on the lack of history of previous drug administration. Furthermore the temperature in drug rashes is usually normal or subnormal.

I also think you have to consider such exanthematous diseases as measles or scarlet fever. I discounted measles because you usually get such prodromal symptoms as conjunctivitis, rhinitis, and cough. Usually leukopenia is present. In scarlet fever prodromal symptoms of sore throat occur followed by a general punctate rash. Usually the fever is not as high as 106° F. Possibly the hypoglycemia which this patient had came from an adenoma of the pancreatic islet cells. Patients with adenomas do not have a high fever but they do have convulsions. Typhoid fever and Rocky Mountain spotted fever are also possibilities although they might sound a little out of line. I was able to discard the typhoid fever because it produces no convulsions and presents an enlarged spleen with leukopenia. I discounted Rocky Mountain spotted fever. Usually there is a history of some kind of tick-like bite, the spleen is palpable, and the rash doesn't appear before the fourth or fifth day. There were no meningeal signs present to indicate meningitis and the spinal fluid was negative.

My last thought was of a fulminating septicemia with the Waterhouse-Friderichsen syndrome, probably meningococcemia. There were several symptoms which I thought fit into this category. First of all was the sudden onset. Secondly, the shock the patient had, the low blood pressure and rapid pulse, and the cold and clammy extremities. The high temperature, the purpura or petechial rash, the coma and leucocytosis also fit into this picture. You seldom get meningeal irritation during this stage of meningococcal invasion.

The convulsions that were present were due, I

thought, to a high fever. I further tried to explain the lack of meningeal irritation by means of the previous administration of penicillin. The increased white blood count probably was due to the infection. I thought the rapid white blood count drop might be due to an all or none response to a fulminating infection. This rapid fall, according to some authors, suggests a bad prognosis. The low blood sugar could be due to liver damage as well as to the acute adrenal insufficiency. I thought the CO<sub>2</sub> decrease was due to the loss of left to right balance, particularly of sodium from the adrenal insufficiency. I can't explain the negative blood culture findings except to say that possibly it is due to penicillin therapy. Several authors say that trying to find the meningococcus is a very difficult procedure.

The cause of death, I thought, was due to some type of circulatory collapse due probably to overwhelming toxemia and depression of all the systems in the body.

Dr. Delp: And your final diagnosis is what, Mr. Woods?

Mr. Woods: My final diagnosis is the Waterhouse-Friderichsen syndrome with meningococcemia.

Dr. Delp: Dr. Wenner, from the diagnosis made so far we could use some information about cultures. Can you add anything?

Dr. Wenner: A single blood culture taken on the 23rd, the first day of admission, was negative after 10 days incubation. The petechiae, in addition, were pressed for culture because meningococci often are found in petechiae and can be isolated from them. All of the petechial cultures were negative after 72 hours. Spinal fluid culture was negative. Nose and throat cultures were obtained and a neisseria was isolated from the nasopharynx and from the oropharynx. Those are all of the ante mortem cultures that were obtained.

Cultures of the peritoneal fluid and meninges were negative at five days. Cultures were, in addition, made from pleural fluid and pericardial fluid and a neisseria was isolated from these fluids. Apparently they were cultured together.

Pathology resident: They were separate.

Dr. Wenner: Post mortem blood cultures were not taken?

Pathology resident: No.

Dr. Wenner: All right. In running this down to identify the neisseria, we met with some difficulties. The organism is not typical of a neisseria meningococcus or gonococcus, which are common offenders. It doesn't ferment dextrose, maltose, and sucrose. The only one that really would fit into that category would be neisseria catarrhalis which is a

**AT THE****A. M. A. CONVENTION**

**Make Our  
Doctors' Lounge  
Your Club**

You'll find it on the main floor . . . designed for your comfort. Drop in. Rest . . . read . . . smoke . . . or just chat.

If you like, have your mail addressed c/o Philip Morris Doctors' Lounge, Civic Auditorium, San Francisco.

Ask at the Lounge for any service that you fancy. We can't promise to deliver, but we certainly promise to try.

**Philip Morris**  
**& CO., LTD., INC., 100 PARK AVE., NEW YORK**

*Be sure to visit the Philip Morris Exhibit . . . Space H-2 and I-1*



common saprophytic organism of the throat. Recent reports are that it becomes pathogenic, but very rarely. However, it doesn't quite fit *Neisseria catarrhalis* because this organism is usually avirulent in laboratory animals. This sub-culture was inoculated into a single mouse and the mouse died in approximately 20 hours. *Neisseria* were cultured from the mouse, indicating that the mouse developed a septicemia. So at the present time all of the findings point to a *Neisseria*, a gram negative diplococcus isolated from the patient. We are going to have to identify it by serological means and that is not finished yet.

Dr. Delp: Well now, Dr. Wenner, from your vantage point just what do you think this child had?

Dr. Wenner: I think it is most likely that the child did have an overwhelming septic infection. This organism probably played a responsible role. My conclusions would be very much the same as some of those outlined by Mr. Woods with respect to the shock and the purpura and the obvious swift course of the disease.

Dr. Delp: But you wouldn't be willing to say that it is meningococcemia?

Dr. Wenner: I do not believe that it is a meningococcemia.

Dr. Delp: There are a number of things we would like to clear up with regard to this case but we will try to do it after we are on a little firmer footing, if we are, after the pathologist's report.

#### Gross Pathology

Pathology resident: On general inspection the findings are negative except for generalized petechiae and echymoses as have been described. The peritoneal cavity contained 250 to 300 cc. of clear straw-colored fluid. At the time of autopsy we thought the mesenteric nodes were larger than normal. The chest contained about 50 cc. of straw-colored fluid on each side. The glands showed subcapsular hemorrhages. The heart weighed 75 grams and the valve rings were slightly larger than normal. There were a few pericardial petechial hemorrhages. The lungs showed petechiae over the visceral pleura and both lower lobes were congested and wet. The spleen was slightly enlarged, weighing 75 grams, was soft and had very prominent malpighian bodies. The kidneys were swollen but otherwise negative. The right adrenal gland weighed six grams and the left eight grams. Both were diffusely hemorrhagic and normal architecture was completely lost. The brain weighed 1120 grams. We didn't notice anything unusual about it on gross examination. Our provisional gross diagnosis was cutaneous, pleural, and pericardial petechial hemorrhages; bilateral adrenal hemorrhage; hypostatic congestion of

the lungs; acute splenitis; questionable toxic necrosis; and cardiac hypertrophy and dilatation.

#### Microscopic Pathology

Dr. Boley: The thing that is prominent in the adrenal gland section is the number of red blood cells that pack this adrenal gland. Numerous polys are also scattered in here and show up as the little black dots. The gland is quite hemorrhagic. Some of the adrenal cells have undergone necrosis and have disappeared. I did various stains trying to bring out bacteria because I understood that the cultures weren't successful. However, I was not able to find organisms in this tissue or any of the other tissues.

The other section I would like to show is from the meninges. The blood vessels do not contain an excessive number of polys, so that it isn't just ordinary blood that is in the adrenal. It is an infiltration of polys along with the hemorrhagic area. Some of the polys in the meninges are in capillaries but others are out in the stroma so that it does have the appearance of an early meningococcus meningitis. I think that this child had a meningitis. That it is a meningococcus meningitis has not been proven. To be frank with you, I am picking the place of greatest infiltration in the meninges, so that it is very slight. About the only thing we can say, Dr. Delp, is that this child did die of a bacteremia. No bacteria were found in the blood which is rather ridiculous for that diagnosis, but I do believe that she died of overwhelming toxemia.

Dr. Delp: Would you classify this from the findings as a Waterhouse-Friderichsen syndrome?

Dr. Boley: I don't think we should use that term. I think we should say the child had bilateral adrenal hemorrhage. I don't think that is the thing that caused the drop in blood pressure as has been expressed before. I think that is only a part of the manifestations of the bacteremia that the child had. If you want to designate it Waterhouse-Friderichsen syndrome, it does fit that category.

Dr. Delp: Is there enough bleeding into the adrenal tissue to fit the classical gross pathological picture of Waterhouse-Friderichsen syndrome?

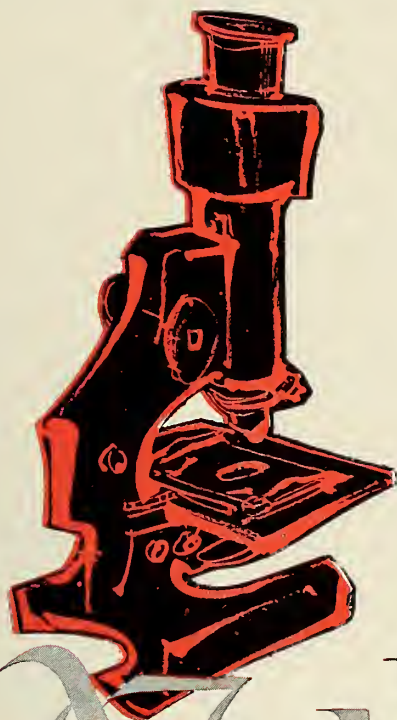
Dr. Boley: Yes.

Dr. Wilson: Disregarding the laboratory data in this case, how would you differentiate a death from hyperpyrexia from what you see here on your pathological slide? This child did have hyperpyrexia over about a four- or five-hour period, 106° to 107° F.

Dr. Boley: About the only evidence that we could have for hyperpyrexia is disruption of the liver cords. That wasn't true in this case.

*Resistant  
Bacterial Infections*

**AUREOMYCIN** HYDROCHLORIDE LEDERLE



Aureomycin is now widely used for the treatment of infections that have proven resistant to other chemotherapeutic agents, or combinations of such agents. Aureomycin does not commonly provoke resistance in bacteria, and its ability to penetrate cell membranes and diffuse through the body fluids assures the presence of the therapeutic material everywhere it is needed.

Aureomycin has been found effective for the control of the following infections: African tick-bite fever, acute amebiasis, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, acute brucellosis, gonorrhea resistant to penicillin, Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), Gram-negative infections (including those caused by the coli-aerogenes group), granuloma inguinale, *H. influenzae* infections, lymphogranuloma venereum, peritonitis, primary atypical pneumonia, psittacosis (parrot fever), Q fever, rickettsialpox, Rocky Mountain spotted fever, subacute bacterial endocarditis resistant to penicillin, tularmia and typhus.

LEDERLE LABORATORIES DIVISION  
*AMERICAN Cyanamid COMPANY*

30 Rockefeller Plaza, New York 20, New York

AUREO-  
mycin

**Capsules:** Bottles of 25, 50 mg. each capsule. Bottles of 16, 250 mg. each capsule.

**Ophthalmic:** Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.



Dr. Wilson: Are they always disrupted in hyperpyrexia?

Dr. Boley: That is my point. But this case doesn't show it. So, as far as saying that this child had hyperpyrexia, I can't say that it did.

Dr. Wilson: It did according to the clinical chart.

Dr. Delp: Dr. Boley, do you think this patient died of an acute adrenal insufficiency?

Dr. Boley: I think she died of bacteremia. The adrenal insufficiency is just a part of the picture like petechiae. The petechiae didn't kill the child. I think the adrenal hemorrhage happened 48 hours before her death when the petechiae occurred and the polys came in because of the hemorrhage at that time.

Dr. Delp: Dr. Miller, do you have some comments now?

Dr. Miller: The child was practically dead when she arrived and was moribund, cold, clammy, and in shock. Blood pressure was unobtainable and I would be very skeptical that adrenal insufficiency could do that to a child in 12 hours. Now, if you had said three or four days, I'd buy it. So that it is clear to me, perhaps erroneously, but at least I think so now, that this child was sick because of the overwhelming infection. She was in shock because of the fact that the capillary bed throughout the body was pretty well injured. Perhaps they can't see it on microscopic examination. But clinically, this child had all the appearance of a child in shock. As we treated her the child became more and more edematous, which confirmed my feeling that the capillary bed was injured. It reminds me very much of the autopsy we had here two or three weeks ago of a man who was electrocuted. The effect on the vascular bed probably was much the same though the organisms or agents were different. In meningococcus septicemia the petechiae are produced presumably by thrombosis of the capillaries by the meningococci. You didn't see any thrombi?

Dr. Boley: I didn't find any thrombi in the adrenals either.

Dr. Miller: But in the skin or subcutaneous tissues, etc.?

Dr. Boley: None of the tissues.

Dr. Miller: I have no doubt in my mind that this child had an overwhelming infection. The child had the typical classical course for meningococcus septicemia. We have recovered an organism which true enough is not a typical meningococcus but it is a neisserian organism. There have been patients reported with a similar type of clinical syndrome caused by staphylococcus or hemolytic streptococcus. Ninety-nine per cent of them are said to be due to

the meningococcus. We have an organism postmortem that comes close to the meningococcus.

Dr. Delp: Dr. Miller, were you surprised at all at the spinal fluid findings reported here?

Dr. Miller: No. It is the usual thing in overwhelming meningococcus septicemia to have spinal fluid negative. There are occasional reports in which the spinal fluid shows no cellular pleocytosis and yet you can recover the organism from the spinal fluid. There are many cases where the spinal fluid is negative in culture and negative to any type of examination that is made and that doesn't surprise me at all. These people die too quickly for a meningitis to develop—they are so overwhelmed by the infection.

Dr. Delp: I think that a couple of points that Dr. Miller has made deserve emphasis. First of all, it is certain from experimental evidence that complete extirpation of the adrenal glands in the experimental animal doesn't result in death in a manner similar to that described here. I suppose, as Dr. Miller emphasized, this child was under such stress that destruction of the adrenal gland might have a more severe effect upon the patient's physiology than would be seen in the experimental animal. It seems to me quite impossible to explain this clinical picture on the basis of destruction of the adrenal gland. Any of you who have been so unfortunate as to watch a child or adult die with diphtheria know that you have almost this identical picture, yet very infrequently is there any disruption or change in the adrenal gland. I think that histochemical studies show some changes in the adrenal gland but nothing so dramatic as is associated with meningococcus and the so-called Waterhouse-Friderichsen syndrome. The fall in blood pressure simply cannot be explained in that manner. It must be explained, as Dr. Miller has mentioned, by alteration in the fluid balance in the individual by increased capillary permeability.

Eighteen months ago we presented in this CPC a patient with an overwhelming septicemia from a hemolytic streptococci who had not just a bleeding into the adrenal gland but massive bilateral adrenal hemorrhage. Here the organism was readily identified. That patient likewise had purpuric spots or petechiae.

Dr. Calkins: May I ask a question? Why, if this was such an overwhelming bacteremia septicemia, did the patient have 207,000 white blood cells?

Dr. Delp: Platelet counts have been done on many of these patients and the counts are invariably all right. You simply have to explain the purpuric lesions upon some damage in the peripheral area. It is also well known that, as Dr. Wenner men-



## A POSITIVE MEANS OF Promoting Nutritional Adequacy

Whenever the need for dietary supplementation arises—as in anorexia, perverted food habits, during and following illness, and in gastrointestinal disease—the regular use of Ovaltine in milk can be of signal value. Taken daily, this well-rounded multiple dietary supplement gives virtual assurance of nutritional adequacy.

As indicated in the table, Ovaltine in milk provides virtually all essential

nutrients in balanced, generous amounts. Its protein is biologically complete. It supplies not only B complex vitamins, but also vitamins A and D as well as ascorbic acid and essential minerals.

The delightful taste and easy digestibility of this food beverage is relished by patients, hence the recommended three glassfuls daily are taken without resistance.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.



## Ovaltine

Three servings of Ovaltine, each made of  
½ oz. of Ovaltine and 8 oz. of whole milk,\* provide:

PROTEIN . . . . .	32 Gm.	VITAMIN A . . . . .	.3000 I.U.
FAT . . . . .	32 Gm.	VITAMIN B <sub>1</sub> . . . . .	1.16 mg.
CARBOHYDRATE . . . . .	65 Gm.	RIBOFLAVIN . . . . .	2.0 mg.
CALCIUM . . . . .	.112 Gm.	NIACIN . . . . .	6.8 mg.
PHOSPHORUS . . . . .	.094 Gm.	VITAMIN C . . . . .	30.0 mg.
IRON . . . . .	12 mg.	VITAMIN D . . . . .	417 I.U.
COPPER . . . . .	0.5 mg.	CALORIES . . . . .	676

\*Based on average reported values for milk.

Two kinds, Plain and Chocolate Flavored. Serving for serving, they are virtually identical in nutritional content.



tioned, you can isolate organisms from the area of these petechial lesions and I suppose someone might say, "Well, those are embolic phenomenon." Someone might suggest that the organism itself in that local area produced capillary damage and the bleeding occurred around it. Dr. Wenner, can you tell us what the local phenomenon might be?

Dr. Wenner: I am not positive. It is probably some toxin in the blood. That is the usual cause.

Dr. Delp: Yes, I think that is right. Well, I think our term, "overwhelming infection," is a relative one. I don't know whether that should be applied to this case or not. Obviously it was overwhelming because the patient succumbed, but whether or not that implies this patient couldn't have mobilized 207,000 white cells, I am not sure. I have seen such a leukemoid reaction only with sulfonamide reactions in previous cases. Would you like to comment about this type of blood count, Dr. Wilson?

Dr. Wilson: I haven't seen it that high. Going back to hyperpyrexia, we do know that some of those patients develop a high white count initially. This is out of proportion to what one sees even in that type of condition.

Dr. Calkins: It is usually the reverse in most fulminating infections.

Dr. Wilson: In some of them. I remember one case of a ruptured appendix with a generalized peritonitis that had a white count of around 60 or 70 thousand. There were many toxic granules indicating that the cells were being called out from the bone marrow very quickly as all toxic granules are immature granules of immature cells.

Dr. Delp: Dr. Miller, I know that cortical extract has been used on every conceivable type of patient and I have seen it used on a number of such patients. Do you have any comments as to whether or not it could have been of value in this case or whether it generally is of value.

Dr. Miller: We gave her a cortical extract. We gave her five cc. every six hours. I have no objections to giving cortical extract to these patients. She came in at two o'clock and was kept on constant oxygen all the way through. An intravenous drip was begun immediately and improvement occurred. Then shock recurred at five o'clock in the morning. The I.V. drip was begun again. We were worried all this time about giving fluid—fearing we would give too much—because we were dealing with a circulation that was poor. One of the complications that you run into with treating meningococcus septicemia is pulmonary edema. We had no evidence of such at any time, in spite of the rather heroic amounts of intravenous fluids that she received. Terminal pulmonary congestion was noted at autopsy. I was surprised that it didn't develop earlier

and I am surprised that there wasn't more pulmonary congestion at autopsy.

This child received 600,000 units of penicillin intravenously when she came in and 200,000 units every three hours thereafter. She received sulfonamides later. We didn't give her sulfa drugs until then because of the danger of producing renal disturbance in a child with profound shock. We were perfectly willing to gamble that the penicillin that she received on the outside, plus the 600,000 units intravenously given here, would take care of the infection. Perhaps we should have given her the sulfa drugs when she came in. However, a person in shock is a dangerous person to be giving large amounts of sulfonamides to.

Dr. Delp: My experience with cortical extracts has never been good in these cases. Patients that I have given them to have not responded. In this particular type of situation I have seen no depression or elevation of the blood pressure, nor an amelioration of the cardiovascular collapse state by the use of such extract.

#### Summary

Clinically this case fits very well the criteria for a diagnosis of meningococcemia following a fulminant course with death resulting during the irreversible cardiovascular collapse state. Failure to secure positive blood cultures detracts from the completeness of evidence for this diagnosis.

The post mortem findings of bilateral adrenal hemorrhage do not prove that death was due to adrenal insufficiency. Although there remains the belief that death in the Waterhouse-Friderichsen syndrome implicates the adrenals, this seems unsound.

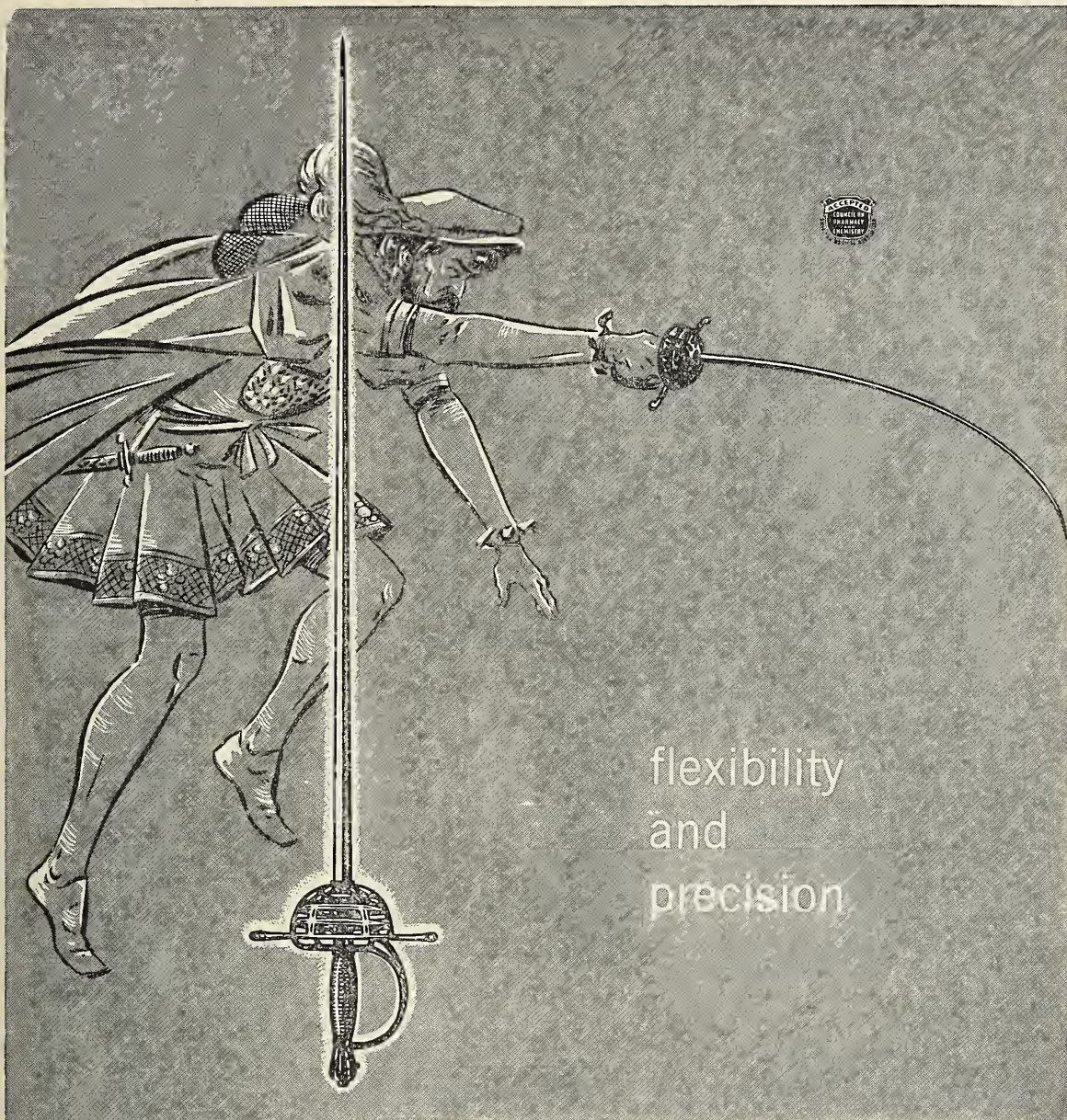
Historically, Waterhouse-Friderichsen's syndrome has come to be associated with fulminant meningococcemia but the finding of adrenal hemorrhage does occur in other infectious processes. Waterhouse, in his case report of 1911, thought he was reporting upon a case of smallpox although the clinical description more clearly fits epidemic meningitis. Of further interest is the fact that Voelcker's description of the identical syndrome antedated Waterhouse's report by 16 years.

#### Bibliography

- Voelcker, A. F.: Middlesex Hospital Pathological Reports, 1894-1895.  
Waterhouse, Rupert: A Case of Suprarenal Apoplexy, *Lancet*, 4 March, 1911.

The University of Kansas Medical Center has received a grant from the Kansas Division of the American Cancer Society for the purchase of ACTH and cortisone for clinical research on acute leukemias in children, an amount sufficient for enough of the drugs to study their value in three children. Dr. Sloan J. Wilson will direct the project.





flexibility  
and  
precision

**PURODIGIN<sup>®</sup>**  
in  
**Cardiac  
Therapy**

**PURODIGIN** is available in three strengths: Tablets of 0.1 mg., 0.15 mg., and 0.2 mg. This facilitates closer adjustment of maintenance dosage to the patient's requirements . . . minimizes need to "stagger" larger and smaller doses or to prescribe irregular intervals between doses.

For reliable, efficient cardiotherapy, specify **PURODIGIN**—pure crystalline digitoxin, Wyeth.



WYETH INCORPORATED • PHILADELPHIA 3, PA.



## KANSAS STATE BOARD OF HEALTH

### Where Next In Infant Mortality?

The decrease in infant mortality is well known. The reduction is due largely to the successful fight against infectious diseases which has occurred in the age period between one month and one year. There has been little decrease below one month in the period referred to as "neonatal."

It is obvious from the graph showing neonatal and infant mortality rates that there must be a reduction in neonatal mortality if we are to expect further reduction in infant mortality. The two lines are about to meet. Let us take a look at the task ahead of us. Of the total infant deaths under one year:

38 per cent of the deaths are under one day

30 per cent from one day to one week

6 per cent from one week to one month

26 per cent from one month to one year

Roughly, these time periods outline our problems. The earliest deaths are largely due to lack of viability because of prematurity or congenital malformation or birth injury. Deaths in the next two age groups are largely due to infection. Those before one week represent infections contracted in the hospital; those over one week, at home. Though there is considerable overlapping, by and large, any one community, hospital, or medical group, can use the time of death to determine where emphasis should be placed.

Because we are dealing with different causes of death, physicians in private practice and in public health must use different methods of attack. For example, immunization against diphtheria, which once was effective in preventing deaths, while a good procedure which should be continued, is not effective against the deaths we are having today. Prevention depends upon other factors.

Prevention of the earliest deaths, under one day, depends largely upon three factors: 1. better edu-

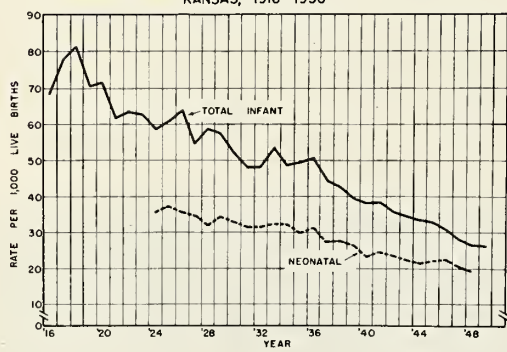
cation of the mother, 2. improved quality of obstetric care, including improved techniques of delivery, and 3. preparation for emergency care of the newborn infant.

The first and more important of these, education of the mother, can be accomplished through maternity classes coupled with the judicious use of public health nursing visits. The classes are being emphasized by the Maternal Welfare Committee of the Kansas Medical Society with the enthusiastic approval of the Child Welfare Committee. Evidence in the literature and from Kansas mortality statistics points toward education of the mother as an important measure in preventing further infant deaths. Maternity classes are established to provide this education. In many communities physicians are co-operating with the Maternal Welfare Committee by encouraging classes and referring patients to them. In other communities refusal by physicians to co-operate with the committee, even after a letter from its chairman, is hardly understandable in the face of present neonatal mortality. In a county with a full-time health department or with a public health nurse, there is no reason why physicians should not demand that these classes be made available for their patients, just as the physicians in Oklahoma City did a few years ago. Public health nursing visits, coupled with maternity classes, should encourage earlier visits of expectant mothers to their physician.

Need for improved quality of obstetric care is brought out when it is found that one physician has one per cent of all the infant deaths in Kansas, while another physician with even a larger obstetric practice, reports only one death in a year. If the difference in educational and social status of the patients could account for the difference in mortality rates, mothers' classes should be an equalizing factor. However, most would agree that there is probably a difference in the quality of care.

Refresher courses are being offered through the combined efforts of the Kansas State Board of Health, the Kansas Medical Society, and the University of Kansas Medical Center. Limited funds are made available by the Kansas State Board of Health for stipends to physicians who desire to attend the obstetric refresher course. No criteria are used in distribution of these funds except that they be used in as many counties as possible. More such funds should be made available. The birth of a premature infant or any with a malformation should be considered as a failure of preventive medicine. It goes without saying that we must care for emergencies until the time arrives that we are able to prevent them. Every hospital should be prepared for emergencies in early newborn care and the physicians should have skill in treating these emergencies.

INFANT AND NEONATAL DEATH RATES  
KANSAS, 1916-1950



# 50 and 3

## YEARS TREATING ALCOHOL AND DRUG ADDICTION

In 1897 Doctor B. B. Ralph developed methods of treating alcohol and narcotic addiction that, by the standards of the time, were conspicuous for success.

Twenty-five years ago experience had bettered the methods. Today with the advantages of collateral medicine, treatment is markedly further improved.

The Ralph Sanitarium provides personalized care in a quiet, homelike atmosphere. Dietetics, hydrotherapy and massage speed physical and emotional re-education. Cooperation with referring physicians. Write or phone.

*The*

**RALPH  
SANITARIUM**

*Established 1897*

Ralph Emerson Duncan, M.D.  
DIRECTOR



**529 HIGHLAND AVENUE • KANSAS CITY 6, MISSOURI**

Telephone Victor 3624



Prevention of deaths in the one- to seven-day age group depends greatly upon protection against infection. Infant diarrhea as a killer in the second summer has been conquered, but it now looms as a specter in the newborn nursery. Influenza and pneumonia are also to be reckoned with in the newborn. Sulfa drugs and antibiotics help to control infections but cannot and should not be depended upon. Hospital nurseries should be constructed and operated to prevent cross infection. It is an unsound practice to allow poor techniques, then to depend upon the use of drugs to stop the infection once it has started. We all know that these drugs are not effective in many infections.

While death in the 7- to 30-day age group may be due to lack of viability or to an infection obtained in the hospital, other factors also enter. Difficulty in feeding adjustment is one factor. However, many of these infants have returned from the hospital and factors in the home must be recognized as playing a part, while the physician and hospital take a lesser part than previously.

This does not mean, however, that either can relinquish its responsibility. An increasing number of hospitals are recognizing this in their teaching care of the newborn infant to the mother before she is dismissed.

The physician should follow suit. Just as he has learned to use hospital nursing service to assist him and the patient in the hospital, he should learn to use community nursing services to assist him and the patient in the home. Besides the physical examination of the infant, positive education of the mother by the physician, as well as certain warnings, are indicated. He should tell her what to expect in infant behavior and how to handle it; he should warn of dangers of infection and accident; and he should give instructions for continuance of terminal sterilization of the formula in the home, just as it has been done in the hospital. The method is as simple as previous methods used and has an added safety factor.

We should not discontinue efforts in the field of sanitation and well-child supervision which have caused a decline in the period between one month and one year. Certainly if the infant death rate is higher than average for this period of life, it should cause one to suspect that much is not being done that should be done to protect infant lives. It should cause physicians and community to take stock. But we must focus attention on the neonatal period in which deaths will be prevented by better education of the mother, better preparation of and consultation for the physician, and better hospital techniques. This is the challenge of infant mortality in the future.

---

## COUNTY SOCIETIES

---

A joint meeting of the Clay County Society and the staff of the Clay Center Municipal Hospital was held at the hospital May 10. Dr. J. L. Lattimore, Topeka, was guest speaker. Dr. R. B. McVay was named delegate to the state meeting.

\* \* \*

The Labette County Medical Society sponsored an open dinner meeting at the Parsons VFW Hall May 10. Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, addressed the gathering.

\* \* \*

Doctors and Auxiliary members of St. Francis entertained members of the Northwest Kansas Society and Auxiliary at a dinner meeting at the home of Dr. and Mrs. Haddon Peck on April 16.

\* \* \*

Dr. Robert H. Maxwell was elected president of the Sedgwick County Society at a meeting held May 2 at Wichita. Other officers named are: vice president, Dr. J. L. Beaver; secretary, Dr. Howard C. Clark; treasurer, Dr. E. S. Brinton; censor, Dr. A. E. Hiebert; directors, Dr. G. F. Corrigan, Dr. E. L. Mills and Dr. D. P. Trees. Those elected will take office in January, 1951.

\* \* \*

The Medical Speakers Bureau sponsored by the Lyon County Society has contributed 80 talks in various county gatherings, according to a recent compilation by Dr. E. J. Ryan, president of the group. The service of providing speakers will be discontinued during the summer and will be resumed in October. The subject chosen most often was "Socialized Medicine," a topic on which 45 talks were made. Other popular subjects were cancer, psychiatry, the heart, nutrition and diet.

\* \* \*

A meeting of the Shawnee County Society was held May 1, when delegates to the state meeting were elected. The evening's discussion was on "Current Legislation and the A.M.A. Publicity Campaign," with Mr. Oliver E. Ebel as guest speaker.

\* \* \*

Dr. Ferdinand C. Helwig of Kansas City was guest speaker at a meeting of the Lyon County Society on May 2. He gave a pathological discussion of cases from Newman Memorial and St. Mary's Hospitals.

\* \* \*

The Wyandotte County Society met May 23 at the City-County Health Building. Dr. T. G. Dillon discussed a paper by Dr. John Martin, "An Objective Symptom—Hematuria," and Dr. A. F. Noth-



**Sterilized . . .  
for  
Safety and Simplicity**

**IN  
INFANT  
FEEDING**



Heat treatment of Page Milk at more than 240° F assures complete sterility and safe keeping. Sterilization is done after the cans have been hermetically sealed, eliminating any possibility of subsequent contamination.

Page Milk is easy to digest. Homogenization and heating at high temperatures give it physico-chemical properties especially favorable for infants and persons sensitive to allergenic milk proteins. Page Evaporated Milk is fortified with 400 USP Units of Vitamin D.

### **The Page Program of SANITARY VIGILANCE**

Protection starts at the source — on the farm — with supervision and regular inspection of herds, equipment and milking methods. When milk is delivered, it is examined for freshness, tested for bacteria, concentrated, canned and sterilized. After sterilization, each can is mechanically checked to make sure it is still perfectly sealed. Daily sampling by our modern laboratory and periodic sampling by independent control laboratories is a final check on quality, viscosity and uniformity.

Page Milk is clean, whole milk with only water taken out and only Vitamin D added. You can recommend it with confidence.

**THE PAGE MILK COMPANY • COFFEYVILLE, KANSAS**

General Offices: Merrill, Wisconsin



nagel discussed a paper by Dr. T. G. Orr, Jr., "Richter's Hernia." The society will not meet during the summer months.

\* \* \*

A health essay contest sponsored by the Marion County Society created a great deal of interest among high school students in the county. Winners received prizes of \$20, \$10, \$7.50 and \$5.00, and their entries were forwarded to the national health essay contest.

---

## ACTIVITIES OF MEMBERS

---

The last day of a three-day homecoming celebration held at LaCrosse in May was termed "Dr. Baker Day" in honor of Dr. Joseph H. Baker who has practiced there 35 years.

\* \* \*

Dr. Ed A. Smiley was top scorer in the Junction City Gun Club's handicap event on April 30.

\* \* \*

Dr. George M. Gray, Kansas City, was presented a 50-year Royal Arch Mason pin on May 6 at the annual spring festival of York Rite bodies.

\* \* \*

Five hundred persons were present at a community celebration in Blue Mound on May 7 when Dr. J. T. Kennedy was honored for his service to the community during the last 46 years.

\* \* \*

Dr. Fred Mayes, director of the Wichita-Sedgwick County Health Department, will resign that position July 1 to become director of public health at Brookline, Massachusetts, and assistant professor of public health at Harvard University. Dr. M. L. Bauman, Parsons, has been named to succeed Dr. Mayes in the Wichita position.

\* \* \*

Dr. C. Alexander Hellwig, formerly of Wichita, is now pathologist at the Hertzler Clinic, Halstead.

\* \* \*

Dr. DeWitt S. Lowe, Hiawatha, was baccalaureate speaker at the Hamlin Rural High School May 14.

\* \* \*

Dr. L. S. Steadman, Junction City, has resigned as Geary County coroner and Dr. C. V. Minnick, Junction City, has been named to the position. Dr. Steadman is in his 55th year of medical practice.

\* \* \*

Dr. R. F. Freeman, Nortonville, has announced the purchase of the Jefferson County Home near Oskaloosa. He will remodel the building and open it in the fall as a convalescent home, operated by a medical director and registered nurses.

\* \* \*

Dr. E. V. Thiehoff, chairman of the Department

of Public Health at the University of Kansas School of Medicine, was elected president of the Kansas Health Conference at an organization meeting held at Emporia May 8.

\* \* \*

Dr. Howard Snyder, Winfield, spoke on socialized medicine before the Pawnee County Council of Women's Clubs at Larned May 1.

\* \* \*

Reports from LaCrosse indicate that contributions to a fund as a memorial to the late Dr. J. E. Attwood have assured the furnishing of the nursery at the new Rush County Hospital.

\* \* \*

Dr. Edgar P. Sereres, Kansas City, recently completed a postgraduate course in bronchoscopy in Chicago.

\* \* \*

Dr. P. R. Young, who retired from practice in Ottawa several years ago, has reopened his office there to specialize in eye, ear, nose and throat work.

\* \* \*

Dr. L. L. Bresette, who completed his term of office as president of the Kansas City Chamber of Commerce in April, was given a gift by members of the medical profession on that occasion.

\* \* \*

Speakers at the third annual convention of the Kansas Society of Medical Technologists, held at Wichita late in April, included the following: Dr. J. P. Berger, Dr. W. P. Callahan, Jr., Dr. B. E. Stofer and Dr. Fred Mayes, all of Wichita; Dr. J. L. Lattimore, Topeka, and Dr. C. A. Hellwig, Halstead.

\* \* \*

Dr. Bruce G. Smith, who recently completed a postgraduate course in internal medicine at Bellevue Hospital in New York, has joined the staff of the Meek-Stensaas-Hill Clinic in Arkansas City.

\* \* \*

Dr. T. D. Ewing, resident physician of the county hospital in Wichita during the past year, has opened an office for general practice in Bushton. He is a graduate of the University of Kansas School of Medicine and served several years with the armed forces in Japan.

\* \* \*

Dr. George L. Gill, Sterling, won the high overall trophy in the Kansas Northern Trapshoot sponsored last month by the Newton Gun Club.

\* \* \*

Dr. Rodger A. Moon, Emporia, has announced that his future practice will be confined to pediatrics in association with Dr. D. R. Davis. Dr. Moon was recently appointed to the pediatric staff of the University of Kansas Medical Center and will spend one day each week at the school.

# BIRTCHE HYFREACATOR

Used by  
More Than  
**70,000**  
DOCTORS

... for the removal of skin growths, tonsil tags, cysts, small tumors, superfluous hair, and for other technics by electrodesiccation, fulguration, bi-active coagulation.

Now, completely redesigned the new HYFREACATOR provides more power and smoother control ... affording better cosmetic results and greater patient satisfaction. Doctors who have used this new unit say it provides for numerous new technics and is easier, quicker to use.

**\$45<sup>00</sup>** COMPLETE

*Write "Hyfrecator Folder" on your prescription blank or clip your letterhead to this advertisement. Reprint of Hyfrecator technics mailed free on request.*

**THE BIRTCHE CORPORATION**  
5087 Huntington Drive Los Angeles 32, Calif.

## HYFREACATOR DEALERS

The Munns Medical Supply Co., Inc.  
KANSAS CITY — TOPEKA

The Midwest Surgical Supply Co., Inc.  
WICHITA

## A BIG TIME-SAVER FOR EVERY DOCTOR



This handy booklet for new mothers was "built to doctors' orders". It contains blank forms for filling in your instructions and formulas.

It provides a permanent case-history record. A memo will bring you a sample...or as many as you want for your daily practice... without obligation.

Many doctors are prescribing "Daricraft Homogenized Evaporated Milk". It is always uniform, safe, sterilized, easy to digest, and high in food value and minerals. Daricraft contains 400 U. S. P. units of Vitamin D per pint.



PRODUCERS CREAMERY CO., SPRINGFIELD, MO.



Dr. J. L. Mothershead, Denton, who recently announced plans to return to the Army medical corps, reports that his practice in Denton will be taken over July 1 by Dr. Max E. Musgrove of Minneapolis and Dr. Emerson D. Yoder of McPherson. Both were graduated from the University of Kansas School of Medicine in 1949 and are completing internships at the Kansas City General Hospital.

\* \* \*

Dr. R. P. Watterson, with offices in McPherson and Inman, announces that Dr. P. H. Hostetter, formerly of the Hertzler Clinic, Halstead, is now associated with him in practice.

\* \* \*

Dr. Donald L. Rose, associate professor of physical medicine at the University of Kansas Medical Center, was principal speaker at a meeting of the Kansas Occupational Therapy Association at Kansas City in April. His topic was "Occupational Therapy in the Treatment of Rheumatoid Arthritis."

\* \* \*

Dr. Vernon Winkle, Kansas City, was installed as president of the Kansas Public Health Association at a recent meeting held in Kansas City.

\* \* \*

Dr. F. S. Brennehan, formerly of Hesston, has moved to Moundridge to take over the office of Dr. D. V. Preheim, who is now doing postgraduate study.

\* \* \*

Dr. Doyle Shrader, who has been practicing in Des Moines, has returned to Kansas and has opened an office for ear, nose and throat work in Wichita.

\* \* \*

Dr. Roy B. Coffey, son of the late Dr. Frank E. Coffey of Hays, has opened an office for practice in Whitewater. He was graduated from the University of Kansas School of Medicine and has just completed a residency at the Kansas City General Hospital.

\* \* \*

The Kansas Society of X-ray Technicians, meeting in Wichita in April, heard addresses by the following physicians: Dr. Earl Mills, Dr. C. M. White, Dr. A. F. Rossitto, all of Wichita; Dr. L. F. Glaser, Hutchinson; Dr. L. K. Chont, Winfield; Dr. R. W. Urie, Parsons, and Dr. G. M. Tice, Kansas City.

\* \* \*

Dr. C. E. Long, Norton, was a special guest of the 1950 graduating class of the Prairie View High School. Dr. Long was the physician who brought the entire class into the world in the early 1930's.

\* \* \*

Dr. J. L. Lattimore, Topeka, was re-elected president of the Kansas Blue Cross Board of Trustees at

a meeting held at Topeka May 21. Dr. Thomas Butcher, Emporia, was elected to a vacancy on the Board of Directors.

\* \* \*

Dr. F. R. Croson, Clay Center, president of the Kansas Medical Society, was featured in the "Who's Who" column of the Sprocket, publication of the Clay Center Rotary Club, on May 22.

\* \* \*

Dr. W. H. Fritzeimer, Wichita, recently became a diplomate of the American Board of Dermatology and Syphilology.

\* \* \*

Dr. F. C. Beelman, secretary of the Kansas State Board of Health, was unanimously elected to the board of directors of the National Health Council at a recent meeting of delegates.

## DEATH NOTICES

### CHARLES WADDLE LAWRENCE, M.D.

Dr. C. W. Lawrence, 80, an honorary member of the Lyon County Society, died April 29 at Emporia. He was graduated from the University Medical College of Kansas City in 1904 and opened an office for general practice in Emporia in 1906. In 1922 he limited his practice to surgery, continuing in that field until his retirement last year.

\* \* \*

### OWEN G. HUTCHISON, M.D.

Dr. O. G. Hutchison, 71, an active member of the Marshall County Society, died at his home in Marysville May 10 after suffering a coronary occlusion. He received his medical education at the University of Illinois College of Medicine, graduating in 1904. He practiced in Wichita for 30 years, and moved to Marysville 12 years ago to take charge of eye, ear, nose and throat work at the Randell Clinic and Hospital.

\* \* \*

### LOT DALBERT MABIE, M.D.

Dr. L. D. Mabie, 84, who had practiced in Kansas City more than 50 years, died May 22 after an illness of several months. He was graduated from the College of Physicians and Surgeons of Kansas City in 1897 and began practice at the conclusion of internship at the old Bethany Hospital. During World War I he served in the Army medical corps in France. He was a member of the Wyandotte County Medical Society and a fellow of the American College of Physicians.

OF SPECIAL INTEREST TO GENERAL PRACTITIONERS AND SPECIALISTS

**FOURTH ANNUAL  
ROCKY MOUNTAIN CANCER CONFERENCE**

**DENVER, COLORADO**

**July 17 and 18, 1950**  
*(Note Change in Dates)*

**EIGHT DISTINGUISHED GUEST SPEAKERS**

Lyman A. Brewer, M.D., Los Angeles.....	Chest
Lowell S. Goin, M.D., Los Angeles.....	Radiotherapy
Edward S. Judd, Jr., M.D., Rochester.....	Gastro-Intestinal Tract
Willis J. Potts, M.D., Chicago.....	Malignancies in Children
Herbert W. Schmidt, M.D., Rochester.....	Diagnosis and Respiratory Tract
Grantley W. Taylor, M.D., Boston.....	Breast and Neck
Richard W. TeLinde, M.D., Baltimore.....	Uterus and Ovary
Wolf W. Zuelzer, M.D., Detroit.....	Malignancies in Children

**ROUND-TABLE DISCUSSION**

**NON-SCIENTIFIC BANQUET**

**FOR HOTEL RESERVATIONS, WRITE TO CANCER CONFERENCE, 519-17TH ST., DENVER**

**NO REGISTRATION FEE**

Sponsored by Colorado State Medical Society and Colorado Division, American Cancer Society

**Throws the SPOT  
where you  
want it...**

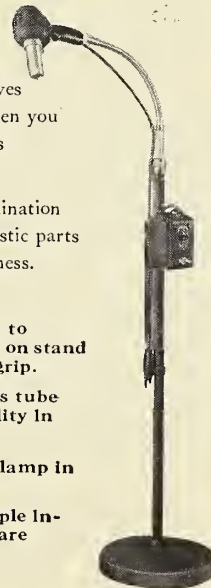
## OPERATING LAMP

Designed for eye, ear, nose, and throat work specifically, but widely used for many other operative procedures, the AO Operating Lamp gives an intense, uniformly illuminated spot of light when you want it, where you want it. The size of the spot is adjustable by means of an iris diaphragm.

Unique body design combines maximum illumination with efficient heat dissipation. Aluminum and plastic parts maintain streamlined beauty, strength, and lightness.

Note these special features:

- ★ Conversion made easily from hand to floor use (and the reverse). Adapter on stand screws directly into butt of pistol grip.
- ★ Right angle mirror on lens tube provides complete versatility in spotting light.
- ★ Flexible gooseneck places lamp in any desirable position.
- ★ Ultraviolet and heat filters for simple insertion, singly or in combination, are available at nominal cost.



*Call your AO Sales Representative. He will be glad to arrange a demonstration.*

**American Optical**



COMPANY



---

## BOOK REVIEWS

---

*Current Therapy.* By Howard F. Conn, M.D. Published by W. B. Saunders Company, Philadelphia and London. 736 pages. Price \$10.

This book is the second of a series which is designed to present the latest approved methods in the treatment of diseases to the practitioners. It is edited by a board of 12 consulting editors, and the procedures as practiced by 250 contributors are given.

The contents are divided into 15 sections: infectious diseases, diseases of the respiratory system, diseases of the cardiovascular system, diseases of the blood and spleen, diseases of the digestive system, diseases of metabolism and nutrition, diseases of the endocrine system, diseases of the urogenital tract, the venereal diseases, the allergic diseases, diseases of the skin, diseases of the nervous system, diseases of the locomotor system, obstetric and gynecological conditions and diseases due to physical and chemical agents.

The discussions are brief and to the point. In some cases they are rather sketchy and lack information which might be desirable, in that they do not establish a reasonable basis for the agents used or rationalize their employment. Hence, it cannot be regarded as a text book of therapeutics. However, in many instances practical information concerning the actual care and handling of patients, which frequently is missing in discussions of therapy, is given in considerable detail. The discussions do not contain references to the literature but they present the methods currently practiced by the contributors. The methods of two or more authorities for treating a single condition are often given. This is an attractive feature in principle, but in some cases the discussions are so similar that no great practical value is achieved.

The book is well indexed. One of its most attractive features is its format. The double columned pages are printed in large, clear type which makes it very convenient for quick and ready reference. As a manual of current therapy, it can be highly recommended for practitioners.—W. H. A.

\* \* \*

*Postgraduate Gastroenterology.* Edited by Henry L. Brooks, M.D. Published by W. B. Saunders Company, Philadelphia. 670 pages, 258 figures. Price \$10.

This is the 1948 course in gastroenterology under the auspices of the American College of Physicians in Philadelphia published in book form. It presents the more recent advances and certain controversial subjects of gastroenterology.

Each topic is discussed by several different authors, chiefly from the University of Pennsylvania, who comment regarding their particular interest: experimental, physiologic, pathologic, biochemical, pathological, radiological, clinical, surgical and therapeutic.

The following problems form the chapter headings: esophageal disorders, gastric secretion, gastric neoplasms, peptic ulcer, relation of neuropsychiatry to gastroenterology, secondary gastrointestinal disorders with particular emphasis on allergy and abdominal symptoms of endocrine origin, pancreatic disorders, mechanism and significance of abdominal pain, diseases of the liver, non-specific enteritis and colitis, intestinal obstruction, jaundice, and colonic diseases.

Numerous cases are described to illustrate each subject. The figures, chiefly photographs of x-rays, are abundant and well-labeled. The discussion of these topics presents the results of recent work and current investigations and does not attempt to review well accepted principles or historical facts. In general the bibliography for each chapter is small or absent.

This book will be welcomed by those who are interested in timely developments in gastroenterology, particularly from the internist's viewpoint. It will not be fully appreciated by the newcomer to this field, unless the fundamentals of gastrointestinal disease are familiar.—C. F. K.

\* \* \*

*The Cytologic Diagnosis of Cancer.* Staff of the Vincent Memorial Laboratory, Boston, Massachusetts, of which Ruth M. Graham is the major author assisted by the other members of her staff. Published by the W. B. Saunders Company, Philadelphia, under the auspices of The American Cancer Society. 229 pages with 517 illustrations and 153 figures and 30 pages in color. Price \$6.50.

This excellent book, the first one of its type to be published, covers the field of cytologic diagnosis from a purely technical and cytological standpoint. The illustrations are excellent, being both low and high power photomicrographs with the camera lucida drawing in all instances and in some places these camera lucida drawings are in color. They demonstrate many of the various type cells seen in smear diagnosis, giving first a typical cell type seen in the various secretions evaluated, and later on, their variations and finally a comparison of the difficulties arrived at and encountered in the interpretation and general criteria for identification. It evaluates not only the vaginal smear diagnosis but includes also the examination of smears from the respiratory tract, gastric mucosa and urinary tract as well as cells of pleural and peritoneal fluid. Chapter

# KANOX THERAPEUTIC OXYGEN



Oxygen Therapy Regulators  
and Equipment

Anesthetic and Resuscitating  
Gases

## KANSAS OXYGEN

Phone 6392

HUTCHINSON, KANSAS

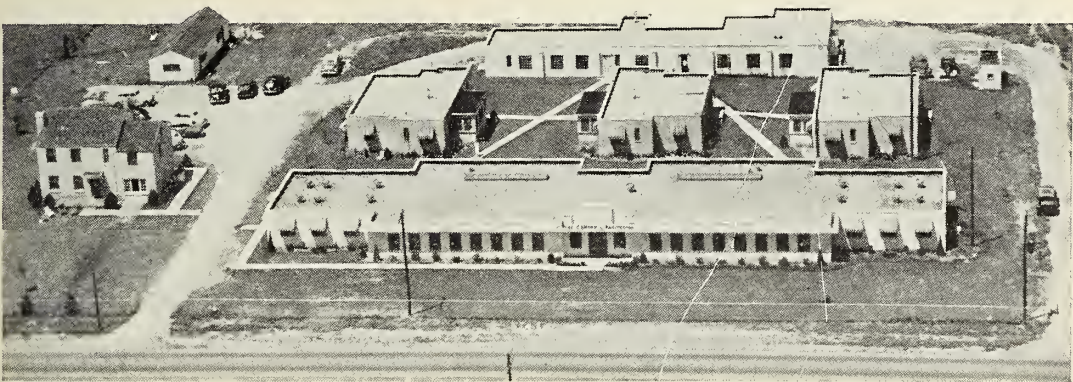
Box 551

# RESEARCH FOUNDATION SANITARIUM

Northeast 23rd and Spencer Road

Phone 54-8405

OKLAHOMA CITY, OKLAHOMA



ESTABLISHED IN 1939

for treatment of

NERVOUS AND MENTAL DISORDERS

Coyne H. Campbell, M.D., F.A.C.P., F.A.A.P.

Samuel A. Capehart, M.D.

Harold G. Sleeper, M.D.

Irene Jennings, R.N., Supervisor

J. H. Barthold, Business Manager



20 is devoted to technique and brings out a number of "important little tricks," not generally known or included in most of the descriptions of this procedure.

For one who has had some training in cytology, this book is an excellent aid. However, it might be confusing to someone with no knowledge of the procedure and attempting to make smear diagnoses in malignant disease.—R. W. K.

\* \* \*

*Diseases of the Foot.* By Emil D. W. Hauser, M.D. Published by W. B. Saunders Company, Philadelphia. 415 pages, 195 illustrations. Price \$7.00.

This is the second edition of this well known treatise on the foot, the first edition having been published in 1939. The subject is considered in detail under headings of anatomy, physiology, hygiene and general care, and of the various conditions affecting the foot. In addition to this there are chapters on local anaesthesia, plaster of paris and physical therapy, manipulative technique, and orthopedic appliances. The text has been revised since the first edition to include specific instructions for anticoagulant therapy in the treatment of thrombophlebitis, and has in general been brought up to date.

The book will be of interest to the orthopedist because of its thoroughness and its clear statements of the author's views as to the classification and management of conditions affecting the foot. The wealth of details given as to etiology, symptoms and treatment of foot disorders should make it fulfill to the fullest extent the author's expressed desire that the book is a practical one for use by the physician in the care of his patients. It is well illustrated and indexed.—E. T. H.

\* \* \*

*Medical Gynecology.* By James C. Janney, M.D. Published by W. B. Saunders Company, Philadelphia. 432 pages, 108 illustrations. Price \$6.50.

This is a concise, yet fairly complete, discussion of the complaints, findings, treatment and examinations relating to an office gynecology practice, with a section devoted to associated social problems. With few exceptions there should be little argument with the treatments and technique recommended by the author. The book should have definite value as a ready reference for the general practitioners.—R. L. N.

\* \* \*

*The Medical Management of Gastrointestinal Disorders.* By Garnett Cheney, M.D. Published by Yearbook Publishers, Chicago. 478 pages, 29 illustrations and charts. Price \$6.75.

This interestingly written review of the important field of gastrointestinal diseases, both actual

and simulated, might properly be entitled "The Differential Diagnosis of Gastrointestinal Disorders." Dr. Cheney's evident wide clinical experience with the problems he discusses continually emphasizes the needs and pitfalls of accurate diagnosis. Repeated stress is placed upon the proper analysis of presenting complaints: the reader is continually reminded that it is the patient, not alone his disease, which must be treated.

Actual procedure in the management of each problem is divided into a consideration of the principles which must be observed, and a suggestion of a specific technique for carrying them out. These include the most recent developments. Of particular value to the medical student and young practitioner is the frequent inclusion of certain proprietary remedies which conveniently embody useful drugs and combinations of drugs. This device greatly assists in bridging the gap between pharmacology as it must be taught and pharmacy as it is generally practiced today.

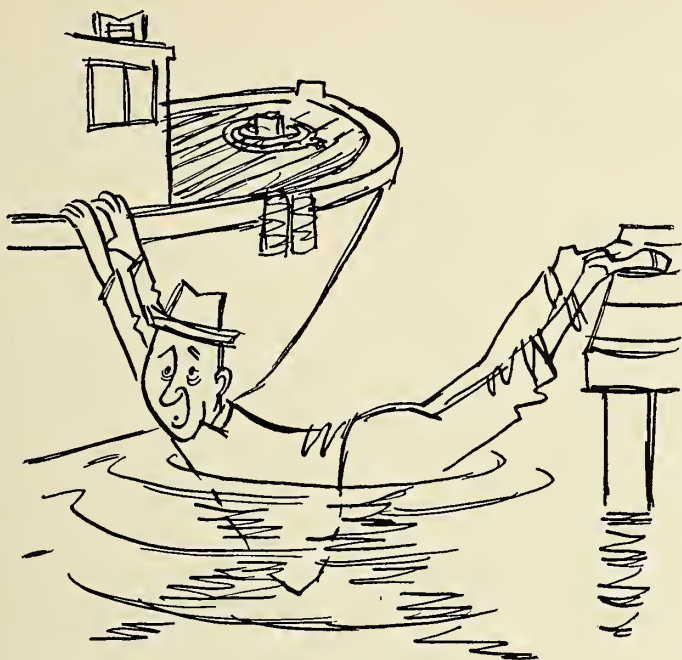
Although there are very few citations of the literature, the text is closely knit by suitable cross references, and adequately supplemented by selected collateral readings listed at the close of each chapter. There is also a comprehensive index which makes this available as a useful, though not exhaustive, reference work.

It is our opinion that this book will be especially valuable to students who desire a rational and workable approach to a complex field, and to busy physicians who desire at once to refresh their memories and to keep abreast of proven therapeutic advances.—W. H. G., Jr.

### Cancer Literature Available

Bibliographies on any topic related to the field of cancer are available to physicians through the library of the American Cancer Society, Inc., according to an announcement recently made by the organization. The Society publishes a bibliography of current cancer literature each month and, on request, will supply reprints on a loan basis to any physician or investigator. Requests should be made to the American Cancer Society, Inc., 17 Beaver Street, New York 4, New York.

The National Gastroenterological Association announces that its course in postgraduate gastroenterology will be given at the Hotel Statler in New York City on October 12, 13 and 14, 1950. Dr. Owen H. Wangenstein, professor of surgery at the University of Minnesota Medical School, will direct the course. Information may be secured from the association, Department GSJ, 1819 Broadway, New York 23, New York.



Don't miss the boat —  
use Quinton-Duffens ac-  
curate prescription serv-  
ice.

*Quinton-Duffens*  
INDEPENDENT  
OPTICAL COMPANY



## *Woodcroft Hospital—Pueblo, Colorado*

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

---

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



## ABSTRACTS FROM CURRENT LITERATURE

### Artificial Respiration

*Effectiveness of Resuscitation and Other Means of Artificial Respiration.* By Cecil Shapiro, *Current Researches in Anes. and Anal.*, 29:1-12, Jan.-Feb., 1950.

The author reviews the history of resuscitation from the time of Aristotle, 450 B. C., until the present. Among the earlier methods used, he discusses mouth to mouth insufflation, counter shock by such means as pulling teeth, hot oil, contrast baths, blows on the feet, dilation of the rectum, use of the barrel, i.e. roll on a barrel, in a barrel or over and over like a barrel; fumigation by blowing tobacco smoke into the mouth or rectum. Mechanical methods were introduced in 1550 when fireside bellows were used to force air into mouth or nose of drowning victim.

The most commonly used manual methods of artificial respiration in use today are the Sylvester method, described in 1858; the Schafer prone pressure method described in 1903; the Schafer pressure method combined with the Nielson arm lift; and the Eve method described in 1932. These are described and the relative merits of each discussed. Manual methods, because of their instant applicability anywhere, have a decided advantage over mechanical methods. The importance of the time factor cannot be over emphasized. While each method has its advantages and its disadvantages, any one of these methods if correctly done will move air into and out of the lungs. He repeatedly points out the importance of a patent airway; support of the patient; treatment of shock; persistence in one's effort; and NOT waiting for a mechanical respirator before starting artificial resuscitation.

The first modern apparatus for resuscitation on the bellow principle was the pulmotor introduced in 1911. Both the positive and negative pressure employed were excessive and the apparatus fell into disuse. The more recent resuscitators are built so that O<sub>2</sub> (or a mixture of O<sub>2</sub> and CO<sub>2</sub> is delivered to the patient till a positive pressure of 14 mm. of Hg. is built up under the mask, then the valves are tipped and a suction of —9 Hg. is exerted. The rate is determined by the volume of the patient's lungs, and the time required for the pressure to arrive at the "blow off" level. Such an apparatus is satisfactory if available, if in good mechanical condition, if the supply of O<sub>2</sub> is adequate, if the airway is patent and unobstructed, and if an experienced operator is immediately available.

The danger of too great a positive pressure is discussed; experimentally in dogs, 52-58 mm. of Hg.

pressure will rupture the alveoli. Too much negative pressure applied to the lungs, which are essentially capillary beds filled with blood, may lead to congestion and to an increased tendency to edema and hemorrhage into the alveoli. Conversely it has been shown that positive pressure of 3-4 Mm. of Hg. actually provides a splinting effect on the pulmonary capillaries and has been clinically applied in the treatment of pulmonary edema. The Pneophore has been developed recently and is on the market. It administers O<sub>2</sub> by intermittent positive pressure with an adjustable range from 0-30 cc. of water. The negative pressure phase has been eliminated.

In 1929 Drinker devised the apparatus with which you are all familiar. Its greatest use is in providing mechanical respiration over a long period of time. More recently portable types of apparatus have been developed in which the pressure is applied directly to the chest wall by a metal casing that surrounds the chest only. They function quite efficiently and will provide mechanical respiration for long periods of time.

Resuscitation of the new born infant is discussed with emphasis on gentleness, warmth, removing mucus from pharynx and trachea and artificial respiration with O<sub>2</sub> either with resuscitation or with mask and bag. He points out the value of mouth to mouth breathing, since it is available and provides CO<sub>2</sub> and O<sub>2</sub> and the pressure exerted can be regulated.

The anesthesia machines that are in common use today provide excellent mechanical means for artificial respiration, and the anesthesiologist in his routine work will quite frequently carry the patient in controlled respiration. By this is meant a form of artificial respiration in which the patient's own respiratory efforts are purposely abolished and his ventilation is carried on by the anesthetist. With a gas machine one has all the necessary requirements for successful artificial respiration and the pressure exerted can be controlled and regulated by the touch of the anesthetist on the rebreathing bag.

Drugs are discussed but mostly to condemn their use and to re-emphasize that what the patient needs is O<sub>2</sub> in the lungs and not overstimulation with drugs.

In summary he points out that we have five reliable methods of manual artificial respiration and that these are available anyplace, anytime and that each and every person should master the technic of at least one method.

He points out that a mechanical resuscitator is as safe and as efficient as the intelligence and skill of the person who operates it and no more so. We live in a mechanical age and are apt to be impressed by machines and more particularly so when we do not

*Doctor . . .*

*Here are two great Spot Tests that simplify urinalysis.*

## GALATEST

The simplest, fastest urine sugar test known.

**A LITTLE POWDER  
A LITTLE URINE**



Galatest and Acetone Test (Denco) . . . Spot Tests that require no special laboratory equipment, liquid reagents, or external sources of heat. One or two drops of the specimen to be tested are dropped upon a little of the powder and a color reaction occurs immediately if acetone or reducing sugar is present. False positive reactions do not occur. Because of the simple technique required, error resulting from faulty procedure is eliminated. Both tests are ideally suited for office use, laboratory, bedside, and "mass-testing." Millions of individual tests for urine sugar were carried out in Armed Forces induction and separation centers, and in Diabetes Detection Drives.

The speed, accuracy and economy of Galatest and Acetone Test (Denco) have been well established. Diabetics are easily taught the simple technique. Acetone Test (Denco) may also be used for the detection of blood plasma acetone.

Write for descriptive literature.

**THE DENVER CHEMICAL MFG. CO., INC.**  
163 Varick Street, New York 13, N.Y.

## ACETONE TEST

(DENCO)

For the rapid detection of Acetone in urine or in blood plasma.

**COLOR REACTION IMMEDIATELY**

### BIBLIOGRAPHY

Joslin, E. P., et al: Treatment of Diabetes Mellitus—8 Ed., Phila., Lea & Febiger, 1946—P. 241, 247.

Lowsley, O. S. & Kirwin, T. J.: Clinical Urology—Vol. 1, 2 Ed., Balt., Williams & Wilkins, 1944—P. 31.

Duncan, G. G.: Diseases of Metabolism—2 Ed., Phila., W. B. Saunders Co., 1947—P. 735, 736, 737.

Stanley, Phyllis: The American Journal of Medical Technology—Vol. 6, No. 6, Nov., 1940 and Vol. 9, No. 1, Jan., 1943.

# THE Lattimore-Fink Laboratories

**TOPEKA, KANSAS**

J. L. Lattimore, A.B., M.D., *Director*  
A. A. Fink, M.D., *Pathologist*  
A. C. Keith, B.S., *Chemist*  
H. C. Ebendorf, M.T., *Serologist*  
L. A. Hull, A.B., *Bacteriologist*

**PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY,  
HEMATOLOGY AND PARASITOLOGY**

*Containers furnished upon request.*

**OFFICES:**

**Topeka, Kan.**

**El Dorado, Kan.**

**Sedalia, Mo.**

**McAlester, Okla.**



quite understand one particular machine.

Quoting from the report of the British Medical Research Council Committee on "Breathing Machines and their Uses:" "There is a natural tendency among doctors as well as laymen to credit a machine with greater power than the manual method of artificial respiration, and to delay or suspend manual methods pending the arrival of the apparatus. No development or multiplication of apparatus for such treatment can compare in usefulness with the training of members of the community in manual methods of artificial respiration. Breathing machines are required only for protracted failure of respiration."—H. F. S.

\* \* \*

### Extradural Hematoma

*Extradural Hematoma in Infancy and Childhood*  
By Franc D. Ingraham, James B. Campbell and Jonathan Cohen, J.A.M.A., 140: 1010-1013, July 23, 1949.

The authors report 20 patients below the age of 12, each with an extradural hematoma. They state that the clinical observations in extradural hematoma in infants and children are different from those due to the same lesions in adults. Only three showed the familiar loss of consciousness with subsequent lucid interval. The progression of drowsiness to stupor or coma is emphasized. Hemiparesis was common, as were also a dilated pupil on the side of the lesion, and a positive Babinski. Blood loss in the infant may become critical in these cases. Shock is common and transfusion is imperative. The spinal fluid pressure is usually increased, but in several instances is normal.

The authors indicate that the infant skull is less rigid, and therefore less susceptible to injury.

Potential spaces for the collection of extradural hemorrhage exist at the centers of the frontal, parietal and occipital bones, where the attachment of dura to skull is less firm than at the edges. In infants it is more frequently the veins than the middle meningeal artery which are torn, in contrast to the adult.

At operation, wide preparation and draping of the head is advised so that exposure can be made as necessary. Local anesthesia plus open-drop ether are employed. The incision for the initial burr hole is placed so that it can be extended to expose the temporal bone for a classic subtemporal decompression. The dura is opened to inspect the subdural space. Open dural decompression is not employed unless extensive damage to the cortex is evident. Subdural taps through open suture lines may be used in infants. Daily lumbar punctures are used

if subarachnoid bleeding persists, and are also indicated in the presence of increased intracranial pressure.

Eighteen of the 20 patients are living.—T. P. B.

### CLASSIFIED ADVERTISEMENTS

**FOR SALE**—Cardiotron, microscope and accessories, electric centrifuge, small incubator, x-ray machine and all accessories, new cystoscope, short wave diathermy, ultra violet lamp. Will sell cheap. Write the Journal 27-50.

**ENT.** Older man in Kansas City, Missouri, wants to take more time off; retire later. Share space, salary, salary-per cent or other suitable arrangements. Is associated with younger ophthalmologist. Complete details on request. Write the Journal 28-50.

**FOR SALE**—Large practice free to purchaser of modern equipment of physician retiring because of coronary attack. Office rent \$40 per month, five air-conditioned rooms. G.E. x-ray. Terms to right man. Write the Journal 29-50.

**WANTED TO BUY.** Eye instruments, eye speculum, fixation forceps, ear speculum, nasal speculum, small ring curette, tongue depressors. Write the Journal 30-50.

**DOCTOR WANTED** for rural community. Large thickly populated area, 14 miles to nearest doctor, 16 miles to nearest hospital, 20 miles northeast of Wichita. Write the Journal 31-50.

### Cook County Graduate School of Medicine ANNOUNCES CONTINUOUS COURSES

**SURGERY**—Intensive Course in Surgical Technic, Two Weeks, starting June 19, July 24, August 21.

**Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting July 10, August 7, September 11.**

**Personal Course in General Surgery, Two Weeks, starting September 25.**

**Surgery of Colon & Rectum, One Week, starting September 11.**

**Esophageal Surgery, One Week, starting October 16.**

**Breast & Thyroid Surgery, One Week, starting June 26, October 2.**

**Thoracic Surgery, One Week, starting June 12, October 9.**

**Gallbladder Surgery, Ten Hours, starting June 19, October 23.**

**Fractures & Traumatic Surgery, Two Weeks starting June 12, October 9.**

**Basic Principles in General Surgery, Two Weeks starting September 11.**

**GYNECOLOGY**—Intensive Course, Two Weeks, starting June 19, September 25.

**Vaginal Approach to Pelvic Surgery, One Week, starting September 18.**

**OBSTETRICS**—Intensive Course, Two Weeks, starting September 11.

**MEDICINE**—Intensive General Course, Two Weeks, starting October 2.

**Electrocardiography & Heart Disease, Two Weeks, starting July 17.**

**Gastroscopy, Two Weeks, starting July 17, September 25.**

**DERMATOLOGY**—Formal Course, Two Weeks, starting October 16.

**Informal Clinical Course every two weeks.**

**UROLOGY**—Intensive Course, Two Weeks, starting September 25.

**Cystoscopy, Ten Day Practical Course, every two weeks.**

**GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES**

**TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL**

**Address: Registrar, 427 S. Honore St., Chicago 12, Ill.**

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

JULY, 1950

No. 7

## The Peril of the Sun Worshipper\*

A. R. Woodburne, M.D., and O. S. Philpott, M.D.

Denver, Colorado

In this high altitude part of the country where the sun shines most of the year the shorter light wave lengths are in much higher concentration than at the lower altitudes. We see many effects of these light waves not usually seen at sea level. To those who have been treating patients with skin diseases over many years the ill effects of the present trend to sun worshipping are well recognized, and the fad of excessive exposure of large areas of the body to the sun's rays has many dangerous and harmful sequelae which alarm us.

We are presenting this paper hoping to bring to physicians a more complete understanding of some of the harmful effects of these practices. Fortunately, those who practice sun bathing regularly are usually indoor workers and so do not get a great excess of actinic effect in line of duty. Those whose work keeps them outdoors much of the time are the ones who suffer most from these harmful effects.

All of us are familiar with the acute sunburn characterized by the rapid development of erythema, edema, vesiculation, with moderate to severe burning sensation. We will spend very little time on this more usual reaction except to mention some of the commonly used harmful methods of treatment.

The best method of treatment in these cases consists of simple, cool, wet dressings of boric acid or slightly hypertonic saline solution; in more severe cases compression dressings of vaseline or boric acid ointment. Harmful methods of treatment such as picric acid, tannic acid, butesin picrate, the various anesthetic ointments, such as those containing cocaine and procaine derivatives, or the antihistaminics frequently do more harm than good because of their tendency to sensitization of the skin.

We have so far considered the normal reaction of people to sunlight. For the balance of our discussion we will consider the various definite diseases

of the skin produced by light sensitivity and some of their late harmful effects.

### Solar Eczema

The term eczema has been applied to skin conditions characterized by epidermal hypersensitivity with the production of erythema, edema, vesiculation, oozing and crusting. The word eczema is from the Greek root meaning "to boil over." Thus in solar eczema we have a hypersensitivity to the sun's rays with the above characteristics. The areas of predilection are constant in all these solar sensitivity eruptions and are the upper rim of the external ear, the malar eminence, the cheeks, the lower lip, the dorsa of the hands and at times the arms. The period of first onset in these cases coincides with the early bright sun of spring, February, March and April.

Symptoms consist of moderate to severe stinging and burning sensations in the areas of predilection. Symptoms frequently precede signs, but the edema, erythema and vesiculation usually follow in a few hours. The symptoms of burning, stinging and itching may be very severe and by some this group of diseases is called the "prurigo of Hutchison" to emphasize the severity of the pruritic symptoms. These symptoms are usually present for a few hours, and then rather violent edema and erythema develop. The entire pinna of the ear may be terribly swollen; however, in women in whom the hair protects the upper part only the lobe of the ear may be involved. The lower lip commonly also shows this violent edema. In the other areas of predilection the edema is usually less violent. After a few hours the areas of erythema and edema are covered with vesicles which may be deep or superficial, depending on the violence of the reaction. These vesicles soon rupture and there is abundant oozing and later crusting. The acute reaction subsides in a few days. However, if this phenomenon repeats itself frequently each year for several years serious scarring and deformity may eventually develop.

\* Material from the Department of Dermatology, University of Colorado School of Medicine, O. S. Philpott, M.D., Professor, and the Private Practice of Doctors O. S. Philpott and A. R. Woodburne, Denver, Colorado. Presented at the 91st Annual Meeting of the Kansas Medical Society, Wichita, May 15-18, 1950.



### Solar Urticaria

Here the patient manifests his hypersensitivity to the sun's rays by the development of urticarial wheals in the areas of predilection described above. Vesiculation, oozing and crusting do not develop. In all these sun sensitivity reactions the wave length responsible varies considerably. Some react to the longer wave lengths in the zone of heat waves while others react to those shorter wave lengths closer to the x-ray or gamma wave length. However, most seem to react to the wave lengths 3000 Angström units, the ultraviolet wave lengths, up to those of visible light 5000 Angström units.

### Summer Prurigo

This entity closely resembles solar urticaria. However, the urticarial papules tend to become fixed with persistent markedly purpuric papules, particularly over the outer rim of the ear, the cheeks and backs of the hands.

Light sensitivity has in some cases been associated with the familial porphyrin metabolic abnormality in which large amounts of abnormal porphyrins are found in the urine and feces. However, this is usually the case in only a very few of the mutilating forms of hydroa aestivale.

### Hydroa Aestivale

This condition shows the most marked of the skin reactions which we have seen so far and is characterized by the development of white edematous macules 1.0 to 2.0 mm. in diameter in the above areas of predisposition. Soon an erythematous halo develops and the center becomes yellowish with edema about it. The center then dries down to form a brownish, dry center about which develops vesiculation to form an umbilicated lesion. The vesicular fluid becomes turbid and sometimes hemorrhagic in character. Superficial lesions heal without scarring. However, some cases show such marked inflammatory reaction that necrosis and resultant scarring may produce loss of portions of the ears and scarring of lips and the dorsa of the hands.

The cause of these photosensitivity reactions is unknown except that solar radiation is the general precipitating factor. Children and young adults are the groups most generally affected. Apparently there are several endocrine and vitamin factors which have some bearing since we have found that in some cases the androgens and in others some factors of the vitamin B complex or the tocopherols will protect the individual.

### Treatment

The best treatment in these diseases is preventive, since they recur each spring and persist during the early summer and in some patients during all the bright months. Discomfort is sufficiently severe to

keep some of the more sensitive from all outdoor activity.

There are several preparations which have been used successfully to screen out harmful rays. They must be applied before going into the sun at all times. The following prescriptions have been very helpful in our hands.

Perhaps the oldest in general use is some modification of the following:

R	Phenyl Salicylat	6.
	Liq. Pet. q.s. to dissolve	
	Ungt. Aq. Rosea q.s.	60.
	M. Sig: Apply before going outdoors	

Other effective formulas are as follows:

R	Para-amino-benzoic acid	9.
	Aquaphor " "	
	aa	
	Aqua Dest. q.s.	60.
R	Neutracolor (Almay)	3.
	Ungt. Zinc Oxid " "	
	aa	
	Lassars Paste q.s.	60.

This last is of the consistency of the powder bases commonly used by ladies and they will use it willingly. There are several proprietary preparations which have given excellent results. A-Fil (Texas Pharmacal Company) and Sunex (Abbott) are two that we have found effective.

For those whose work requires long hours in the sun these protectives are not always sufficient. For these unfortunate individuals, a trial of the vitamin and ketosteroid hormones is next in order. We have had a few patients who have increased their resistance to these hypersensitive reactions by taking large doses of vitamin B complex; a larger group seem to be benefitted by the tocopherols in doses of 100 mgms. three times a day. Dr. Lamb<sup>1</sup> of Oklahoma City has managed to keep many of his ranch patients at work, despite these hypersensitive reactions, by the use of the ketosteroid hormones. Some do well on oral testosterone 10 to 25 mgms. daily by mouth while others are only protected by daily injections of large doses of androgen.

Treatment of the established case is first, removal from the sun; second, cool compresses of Burrow's solution, boric acid or saline, and, after the edema and vesiculation subside, the use of simple emollients such as cold cream or ointment of zinc oxide.

### Lasting Effects of Sun Irritation

We come now to the consideration of those effects of solar reaction of the skin which leaves permanent and in many cases very serious effects.

Xeroderma pigmentosum is a familiar skin disease characterized by very early aging of the skin following light exposure. Here in childhood the skin shows the wrinkling, atrophy of the epidermis,

blotchy hyperpigmentation and papular hyperkeratosis that we see in the aged skin of sailors, farmers and ranchers. Squamous cell carcinoma develops at an early age and these patients usually succumb before reaching maturity.

Fortunately, this familial defect of photosensitivity is rare. However, a large part of our population which must work outdoors in wind and sun show many of these changes in later life. The blue eyed, blond and pink-skinned individual who has spent all or most of his life on our farms and ranches will show as he gets older some of these changes. The early changes are seen as dryness of the exposed skin with loss of subcutaneous fat and wrinkling of the skin. This dryness and wrinkling become progressively more severe, and over the vermilion border of the lower lip and upper edge of the pinna of the ear dry scaling develops. Macular areas of hyperpigmentation over the dorsal surfaces of the hands, the cheeks and the ears also are seen. Later on small, horny excrescences develop which peel off and regrow over a period of several months or years. These are the senile keratoses which definitely belong in the group of skin premalignancies. If these senile keratoses are not adequately treated they continue to grow, eventually the skin below them becomes infiltrated with a hard, nodular, pearly infiltrate. This is already a squamous cell carcinoma. Ulceration supervenes in time and the lesion progresses to infiltration of surrounding structures and becomes increasingly more difficult to successfully eradicate.

#### Treatment of Late Sequelae

Preventive treatment here again is the treatment of choice. The blue eyed, light skinned rancher and farmer should from childhood protect his skin when working outdoors. Broad brimmed hats and sun screening agents should be used. Emollients should be used to soften the dry skin. Senile keratoses

should be destroyed when they become hyperkeratotic. Usually electrocoagulation of these under novocaine anesthesia is the method of choice. Surgical excision is also effective; however, over the ears, on the nose, lips and back of the hands it is often difficult to get adequate skin for closure. When any infiltration is detached in the base of these keratoses the lesion should be removed for microscopic study at the time of electrosurgical destruction. In all reasonably early skin cancers the combined method of electrosurgical destruction, biopsy and x-ray therapy has given uniformly good results. Elliott<sup>2</sup> recently reported a series of over 1700 consecutive skin cancers of this type with a five-year cure rate of over 97 per cent.

In those cases in which the carcinoma has invaded deeper structures such as cartilage, bone or muscle the problem becomes much more serious. Here, only wide surgical excision can adequately handle these cases. Our program here should be the adequate handling of these cases when they are easily controlled; thus, keratoses should be coagulated before they become carcinoma, and carcinoma adequately treated by excision or electrosurgical destruction followed by radiation therapy before deep invasion has occurred.

#### Conclusion

A review of harmful effects of excessive exposure to actinic rays with especial emphasis on preventive methods of treatment has been given in an effort to save many from early and late disease caused by excess exposure to sunlight.

#### References

1. Lamb, J. H., et al: Steroid Hormones: Metabolic Studies in Dermatomyositis, Lupus Erythematosus, and Polymorphic Light Sensitive Eruptions, *Arch. Dermat. and Syphil.*, 57:785-801 (May) 1948.
2. Elliott, J., and Welton, D. G.: Epithelioma, *Arch. Dermat. and Syph.*, Vol. 53, No. 4, 307-323.

## Kansas Medical Society Annual Meetings

1951

May 14-17

TOPEKA, KANSAS

1952

May 5-8

KANSAS CITY, KANSAS



# The Use of Protein Bound Iodine as a Clinical Tool\*

William N. Harsha, M.D.\*\*

Kansas City, Kansas

Once the clinical picture of hyperthyroidism is apparent as displayed with nodular or diffuse goiter, with or without exophthalmus, the diagnosis presents no problem. When thyroid enlargement is marked, however, or when complicating and confusing symptoms are present or when symptoms are minimal, the true clinical evaluation of thyroid activity may become quite difficult.

Much of Kansas and the surrounding areas lie in a goiter belt. In this region, quiescent nodular or diffuse goiter is common. Moreover, these patients frequently have non-thyroid hypermetabolic diseases which cause them to have an elevated BMR and even present certain objective signs of hyperthyroidism. This group of individuals frequently receives extensive courses of medical therapy or even surgery without further investigation of their hypermetabolism. The diagnostician is put to test as to how to correctly evaluate the patient with a functionally normal goiter who presents with symptoms arising from menopause, anxiety states, hypertension, cardiac failure or hyperplastic neoplastic diseases.

In addition, the diagnosis of border-line hyperthyroidism or hypothyroidism presents much difficulty because there are no routine clinical procedures available which test only thyroid activity. The basal metabolic rate is a measure of oxygen consumption, the end result of many oxidative processes in the body, and is not necessarily related to the production, transportation and utilization of the thyroid hormone. The problem of obtaining true basal states in the patient short of hypnosis frequently negates an otherwise helpful test. Determination of serum or plasma cholesterol reflects the degree of thyroid activity in the metabolism of fats and steroids. This procedure is fraught with many errors. For accuracy, one must assume normal ingestion and absorption of the fat. The functional status of the liver is intimately related to the utilization of cholesterol, quite independently of the thyroid hormone.

Since the thyroid gland is so closely related to the metabolism of iodine, numerous studies in an attempt to correlate the amount of iodine in blood with the various objective signs of thyroid activity have been made. There is ample evidence to show that circulating protein bound iodine represents the metabolically active hormone elaborated by the thyroid gland.<sup>1, 3</sup>

The chemical determination of iodine in any of the blood fractions, as suggested in the literature, is difficult technically and requires expensive equipment and materials. This fact stimulated some investigation into more readily adaptable methods. We believe that a simpler method than the standard techniques now used can be offered.

Briefly, the tests suggested to date take the blood sample and fractionate it into protein and protein free portions. The desired fraction is then subjected to some potent oxidative process, generally fusion with sodium hydroxide in a blast furnace. The fusate is later oxidized in a manner not dissimilar to the standard Kjeldahl procedure. The oxidized material is then washed, trapped in various halogen binding solutions, and reduced to free iodine and titrated. Loss of the iodine in various transferring and open destruction procedures, frequently led to errors in the determinations. The fact that iodine is present in minute quantities made necessary use of large original specimens and made duplicate analysis impractical. This paper describes two methods for determining the amount of circulating protein bound

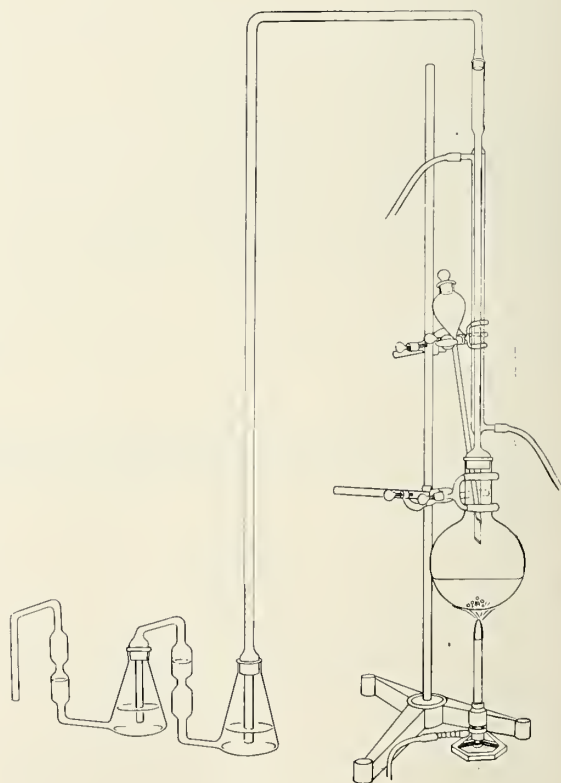


Figure 1

\* Supported in part by USPH Grant H 695 (F1698)

\*\* Department of Surgery, University of Kansas Medical Center.

iodine. The first method is designed for use in any laboratory, the latter requires expensive equipment and highly skilled technical assistance.

An entirely closed technique for release and binding of the iodine has been developed in the laboratories at the Medical Center. A three-piece, all glass apparatus was made from standard glass stock (see Figure 1). It is important that all joints be of ground glass. All equipment used is kept in a chromic acid, sulphuric acid cleaning solution until just before use, at which time it is rinsed and quickly assembled. These precautions are necessary because iodine, being volatile, is ever present in the laboratory air and has a great affinity for glass surfaces.

We use a 25 cc. sample and precipitate the proteins with five per cent trichloroacetic acid. The precipitate is placed in the round bottom oxidizing flask and an oxidizing solution of chromium trioxide and sulphuric acid is added. No oxidation takes place in this superconcentrated solution until oxygen, in the form of water, is supplied, so loss of the

unknown does not occur. The flask is sealed in the apparatus, water added cautiously via the separatory funnel at the top and oxidation carried out, adding heat to maintain a briskly boiling solution. Oxidized iodine is carried over in a water vapor, condensed and trapped in a binding solution of sulfurous acid. Mixture with the binding solution is achieved by bubbling through the modified Erlenmeyer flask at the left. Oxidation is completed when the billowy white fumes of sulphur dioxide appear in the binding flask. The trapped iodine is then converted to iodic acid and then to iodate and adsorbed on starch granules. The resulting suspension is titrated with sodium thiosulfate. A similar technique is carried out upon the protein free portion of the blood sample to determine inorganic iodine.

It is believed that this technique could be set up in any moderately equipped laboratory. It does not require expensive apparatus, and reproducible results with a margin of error of plus or minus three per cent were readily achieved by several previously unskilled technicians. The test does demand attention frequently during a three-hour period and fastidious care in cleaning apparatus is important. A blank determination is obviously essential.

We have come to regard any person presenting with a protein bound iodine between three and 10 micrograms per 100 cc. as having normal thyroid activity. Any person with higher levels has a hyperfunctioning thyroid gland and any below three has a depressed activity. Patients who have recently ingested iodine containing foods or medicinals occasionally show elevated protein bound iodines but have normal protein bound iodines when the protein precipitate is redissolved in dilute NaOH and then reprecipitated with trichloroacetic acid. These same persons always have very high inorganic iodine values and it is assumed that the elevated protein

TABLE I

Diagnosis	BMR	Cholesterol (Mg%)	Protein Bound Iodine
No disease or complaint	Plus 5	185	4.6
" " "	Plus 8	163	6.3
" " "	Plus 3	210	4.8
" " "	Minus 3	196	8.2
" " "	Plus 2	161	6.9
" " "	Plus 8	200	6.3
" " "	Plus 7	185	4.0
" " "	Plus 7	173	5.8
" " "	Plus 6	189	4.3
" " "	Minus 4	203	6.1
" " "	Plus 1	195	5.5
" " "	Minus 2	175	5.9
" " "	Minus 3	196	8.9
" " "	Plus 6	206	10.3
" " "	Plus 3	211	6.4
Toxic nodular goiter	Plus 22	111	15.2
" " "	Plus 18	131	18.3
" " "	Plus 15	180	20.1
" " "	Plus 34	153	30.6
" " "	Plus 28	116	28.4
" " "	Plus 20	143	19.4
Toxic diffuse goiter	Plus 23	108	22.8
" " "	Plus 48	83	34.6
" " "	Plus 30	122	21.2
Hyperthyroidism with no gland change (Palp)	Plus 38	114	28.2
" " "	Plus 28	93	19.2
Hyperplasia thyroid, no symptoms	Plus 8	147	8.2
Benign adenoma of thyroid	Plus 4	163	4.8
" " " "	Plus 6	182	6.4
" " " "	Plus 3	162	5.3
" " " "	Minus 2	181	4.5
" " " "	Minus 3	159	4.5
Benign fetal adenoma	Plus 2	169	6.9
" " "	Minus 8	182	5.3
Hypothyroidism	Minus 11	283	0.8
" " "	Minus 23	280	1.1
" " "	Minus 7	310	0.9
" " "	Minus 13	180	1.3
" " "	Minus 18	235	0.2
Creatinism	Minus 27	385	0.4

TABLE II

Diagnosis	BMR	Cholesterol (Mg%)	Protein Bound Iodine
Chronic cholecystitis	8	243	4.3
" " "	6	245	6.2
" " "	9	183	5.3
Acute cholecystitis	25	143	7.0
Chronic cholecystitis with neurosis	27	142	6.2
Carcinoma of gallbladder	9	161	5.8
Carcinoma of liver	11	203	4.9
Cirrhosis with ascites	Minus 5	265	6.7
" " "	Minus 7	318	5.7
Carcinoma of stomach	4	175	5.9
Chronic pancreatitis	7	193	7.1
Carcinoma of breast	2	169	4.1
Uterine fibroid	9	270	6.1
Epigastric hernia and anxiety	26	173	7.9
Hemorrhoidectomy	17	162	6.5
Lymphatic leukemia	37	149	5.3
Hodgkins disease	23	210	5.9
Multiple myeloma	59	197	4.6



iodine is an adsorption phenomena unrelated to the iodine of the circulating thyroid hormone.

Tables I and II are a series of cases evaluated by the chemical estimation of protein bound iodine. It is apparent in the study of these tables, that the protein bound iodine values parallel the clinical diagnosis without fail and, in cases of hyperthyroidism, the pathological diagnosis. Table II is of special interest in showing two patients with cirrhosis of the liver who clinically seemed hypothyroid and their BMR and cholesterol studies would verify that impression. Their protein bound iodines were normal, their depressed general metabolism being a reflection of the liver disease. The three patients with hyperplastic lymphomatous diseases appeared to be hyperthyroid and again their BMR would have borne that contention out. Their protein bound iodine was normal, their hypermetabolism being an effect of their neoplastic disease.

A second technique has been established at the Medical Center. To check the methods, the two tests are being carried out simultaneously and without fail have compared favorably.

Radioactive iodine is being employed by many investigators today in both diagnosis and treatment of abnormal thyroid states. Two general methods, urinary excretion and thyroid uptake, have been used to follow the fate of an administered tracer dose of radioactive iodine. Extensive studies on the rate of excretion of radio iodine in cases of hyper and hypothyroidism and in persons with normal thyroid activity have been made in many clinics.

While the urinary excretion method has the advantage of a degree of simplicity, the assumption that all unexcreted radio iodine remains in the thyroid gland is open to question. Poor correlation has been reported by Quimby and McCune<sup>4</sup> between the values for thyroid uptake as measured directly over the gland and calculated from the urine. Hamilton and Soley<sup>5</sup> and Hertz and Salter<sup>6</sup> were not able to correlate the total radio iodine by combining the content of thyroids removed totally at surgery and the radio iodine excreted in the urine. Still further disadvantages are the wide range of excretion in urine and the great difficulty in getting accurate urine specimens from the patient.

One final disadvantage in relying upon the urinary excretion of radio iodine in the diagnosis of thyroid abnormality is the wide overlapping of data in normal and hypo and hyperthyroid individuals.

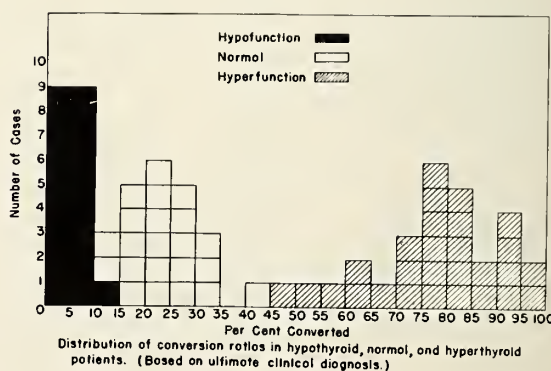
The technique described again measures the circulating protein bound iodine. It consists of orally administering 0.3 millicuries (Oak Ridge Standard) in the form of carrier free potassium iodide to patients with apparently low or normal thyroid func-

tion. In patients with apparent hyper-functioning thyroids 0.5-0.8 millicuries were given to assure that the gradient of conversion would not be 100 per cent. The patients were studied as out-patients, no alteration in their activities being required. It follows that to study adequately normal status of thyroid activity for the patient under observation, all attempts to alter the function, with iodine or thiouracil derivatives, are to be avoided. We have found that two weeks without therapy is essential for accurate evaluation.

Twenty-four hours following the administration of the radio iodine, blood was obtained, 15 cc. being placed in five drops of heparin. The plasma was separated by centrifugation. The total plasma  $I^{131}$  was determined by pipetting one cc. of plasma into a small capsule (lid from ointment jar) and adding one cc. of a diluting solution containing 0.02 M NaOH; 0.0015 M KI and 0.005 M NaHSO<sub>3</sub>. One drop of one mg. per cc. of AgNO<sub>3</sub> was added. The capsule was gently agitated and dried in a hood under an infra red lamp. Great care was taken that the dried residue had an equal distribution on the bottom of the capsule. The radioactivity was then determined with a Geiger-Muller counter. The activity of the plasma proteins was determined concurrently and by measuring radioactivity in the same way. The proteins were precipitated from a second one cc. sample of plasma with four cc. of 10 per cent trichloroacetic acid and washed with the acetic acid solution. The precipitate was then dissolved by two cc. of water containing seven drops of 2N NaOH and transferred to a capsule. Again one drop AgNO<sub>3</sub> was added and the residue dried under the same infra red lamp. Self absorption of radio iodine by the inorganic radio iodine has been found to be negligible when one cc. plasma is used with small amounts of NaOH.

The results of the determination were expressed as the ratio of radioactivity in counts per second in

Table III



the protein fraction and in the total plasma fraction. This is determined as the conversion ratio and is read as per cent of  $I^{131}$  converted.

Conversion ratio

$$\frac{\text{Protein Bound } I^{131} \text{ in counts per second}}{\text{Total Plasma } I^{131} \text{ in counts per second}} \times 100$$

TABLE IV

Diagnosis	BMR	Cholesterol (Mg %)	Protein Bound Iodine (Mg %)	Conversion Ratio (in %)
Carcinoma of cervix	Plus 3	185	5.2	21
Incisional hernia	Plus 12	176	5.4	29
Melanosarcoma	0	183	6.1	15
Fetal adenoma of thyroid, chronic duodenal ulcer	Minus 7	210	4.3	32
Hemorrhoids, anxiety symptoms	Plus 15	218	5.3	24
Carcinoma of thyroid, sub-total thyroidectomy	Plus 10	185	6.1	16.6
Uterine fibroids, transec- tion of cord at L-2	0	193	3.2	30
Carcinoma of thyroid	Minus 10	164	4.3	21
Intestinal obstruction	0	223	3.5	28.2
Gastric ulcer	Minus 1	195	5.5	42
Carcinoma of pancreas	0	203	6.1	33.7
Biliary fistula	Minus 14	159	6.9	21
Carcinoma of breast	Minus 16	165	5.9	23.8
Ulcerative colitis	Plus 12	163	3.2	35
Malignant exophthalmus, no signs of thyrotoxicosis	Minus 1	210	5.5	24
No organic disease	Minus 23	218	5.1	26
Adenoma of thyroid, benign	Minus 2	220	6.4	17
Functional bowel distress	Plus 12	165	6.1	17
Cyst of kidney	Plus 3	173	7.1	18.5
Inguinal hernia	0	163	9.5	13
Appendicitis	Minus 13	195	7.4	27.3
Adenoma of thyroid, benign	Minus 11	183	3.1	13.3

TABLE V

Diagnosis	BMR	Cholesterol (Mg %)	Protein Bound Iodine (Mg %)	Conversion Ratio (in %)
Hyperthyroidism-diffuse	Plus 17	116	26.1	45
"	Plus 21	127	21.0	53
"	Plus 25	175	13.1	59
" -nodular	Plus 23	108	27.2	61
" -diffuse	Plus 19	82	18.1	65
"	Plus 39	129	30.1	68
" -nodular	Plus 42	99	22.7	71
" -diffuse	Plus 35	163	27.2	74
"	Plus 42	145	19.8	75
"	Plus 45	143	21.8	76
"	Plus 15	179	15.1	77
" -nodular	Plus 45	126	31.8	78
"	Plus 26	137	26.0	78.9
" -diffuse	Plus 39	114	32.7	79
"	Plus 42	129	31.7	80
"	Plus 8	143	20.6	81
"	Plus 39	155	20.9	81
"	Plus 30	173	60.1	82
" -nodular	Plus 49	117	57.1	91.5
" -diffuse	Plus 30	123	7.1	95
" -nodular	Plus 64	133	32.1	96

In the cases studied, the conversion ratio was studied as soon after the BMR as possible and concurrently with the chemically determined blood iodine and cholesterol. Every case had received clinical evaluation by at least one service and had received a clinical diagnosis. A pertinent part of the history related to previous medication or laboratory studies using iodized agents.

Table III shows graphically the conversion ratios in various thyroid states. Patients converting from 10-50 per cent of inorganic  $I^{131}$  to protein bound iodine are considered to have normal thyroid activity. Those converting less than 10 per cent are hypothyroid and those converting over 50 per cent are hyperthyroid.

Tables IV to VII show a series of patients in which both protein bound iodine and radio iodine conversion studies were performed in addition to clinical evaluation, BMR and cholesterol.

Table IV lists patients with normal thyroid activity as shown clinically as well as by normal protein bound iodine and radio iodine conversion ratios. In several instances the BMR and the clinical impressions were contradictory as shown. Table V shows 21 hyperthyroid individuals and without fail showed high conversion of radio iodine. One patient showed a normal protein bound iodine and two had very high values. These later two were per-

TABLE VI

Diagnosis	BMR	Cholesterol (Mg %)	Protein Bound Iodine (Mg %)	Conversion Ratio (in %)
Carcinoma of thyroid, total thyroidectomy	Minus 25	280	0.2	3.5
Myxedema	Minus 40	230	0.8	5.0
Carcinoma of thyroid, myxedema	Minus 40	720	1.8	5.0
Carcinoma of thyroid	Minus 6	185	1.3	2.7
Carcinoma of thyroid, myxedema	Minus 35	282	1.9	12.5
Carcinoma of thyroid	Minus 13	118	0.9	7.0
Carcinoma of thyroid, myxedema	Minus 13	218	2.3	4.0
Hurthle cell, carcinoma myxedema	Minus 38	280	2.1	6.1
Carcinoma of thyroid	Minus 4	210	3.0	5.0
"	Minus 20	210	0.7	7.1
Myxedema	Minus 30	255	0.9	3.0
Hypothyroidism, pernicious anemia	Minus 21	265	1.9	7.0
Myxedema	Minus 23	210	1.4	7.0
Creatinism	Minus 9	295	2.4	6.8
Myxedema	Minus 37	300	0.3	7.0
Post-thyroidectomy, hypothyroidism	Minus 30	185	0.9	3.3
Craniopharyngioma	Minus 39	318	0.4	8.8
Hypothyroidectomy, anxiety state	Minus 19	264	0.7	4.0
Myxedema, mild	Minus 18	227	2.2	9.0



TABLE VII

Diagnosis	BMR	Cholesterol (Mg%)	Protein Bound Iodine (Mg%)	Conversion Ratio (in %)
Auricular fibrillation with myocardial defect, diabetes mellitus	Plus 23	183	4.3	7.0
Hypertensive cardiovascular disease, mild decompensation	Plus 14	210	9.1	6.2
Hypertensive cardiovascular disease, severe decompensation, nodular goiter	Plus 36	113	2.9	1.5
Mild cardiac failure	Plus 11	225	5.3	5.0
Hypertensive cardiovascular disease, diabetes mellitus	Plus 24	213	2.1	8.4
Hypertensive cardiovascular disease	Plus 28	195	7.1	8.0
Hypertensive cardiovascular disease with moderate decompensation	Plus 31	165	5.5	6.4
Essential hypertension, previous incomplete sympathectomy	Plus 31	280	23.1	36
Essential hypertension, no cardiac disease	Plus 22	194	10.1	23.8

formed before realization of a possible inorganic iodine adsorbing phenomena. Table VI shows a group of hypothyroid individuals, many of them secondary to total thyroidectomies for carcinoma of the thyroid. In each case the protein bound iodine and the radio iodine conversion are in the hypothyroid range. The last table shows a group of hyper-

tensive and cardiac individuals. Variation in results here is wider, but the trend shows no evidence of thyroid overactivity in these patients who presented a clinical picture like hyperthyroidism.

In summary, two procedures to assess the degree of thyroid activity are presented. The chemical determination of the protein bound iodine is technically feasible and reproducible of results that concur accurately with thyroid activity. Measuring the degree of conversion of radio iodine to circulating thyroid hormone is technically simpler, less expensive in a properly equipped laboratory, and reproducible with the same degree of accuracy. Development of the chemical determination of protein bound iodine was undertaken to offer the general clinical laboratories a satisfactory method free from the requirements and potential hazards of radio iodine. Neither procedure is harmful to the patient nor does it restrict his activities. Both tests are ideally suited to follow the effect of various therapeutic procedures.

#### Bibliography

1. Bassett, M. A. and Salter, Wm. T.: Protein bound iodine in blood, *Am. Jour. M. Sc.*, 202:516:41.
2. Manie, B. and Peters, J. P.: Serum iodine fractions in hyperthyroidism, *Jour. Clin. Inves.*, 21:773:42.
3. Curtis, G. M. and Swenson, Roy E.: Significance of protein bound iodine, *Am. Surg.*, 128:443:48.
4. Quimby, E. H. and McCune, D. H.: Uptake of radio iodine by the normal and disordered thyroid gland in children, *Radiology*, 1:49:201:47.
5. Hamilton, J. G. and Soley, M. H.: Studies in iodine metabolism by the use of the new radioactive isotope of iodine, *Am. Jour. Physiol.*, 127:557:1939.
6. Hertz, S. and Salter, W. T.: Radioactive iodine as an indicator of thyroid physiology, *Jour. Clin. Inves.*, 21:25:42.

#### NEW A.M.A. DIRECTORY

A copy of the A.M.A. directory for 1950, the first published since 1942, has been received at the Executive Office. Information from the directory will be supplied upon request. Physicians interested in securing their own copies, at \$25 each, may order them from

Mr. A. W. Stack  
Fellowship, Membership and Subscription Department  
American Medical Association  
535 North Dearborn Street  
Chicago 10, Illinois

# The Surgical Treatment of Patent Ductus Arteriosus

John G. Shellito, M.D.\*

Wichita, Kansas

*Introduction:* In fetal life the blood circulating in the embryo must bypass the pulmonary vascular bed. This function is fulfilled by the patent ductus arteriosus. After the child is born, this shunt action of the ductus is no longer desirable. According to Christie,<sup>1</sup> most ducti close within the first three months and 99 per cent are closed within the first year.

In the event that the ductus arteriosus does not close, the child has, in effect, an arteriovenous shunt or fistula. The flow of blood is from aorta to the pulmonary artery as the higher pressure is in the aorta. This is the reverse of the situation in utero.

The disability encountered depends in large measure upon two factors: (1) the size of the ductus, and (2) the presence of infection.

In consideration of the ductus size, it is obvious that if the opening is small, no disability may be apparent. Only the characteristic machinery murmur will remain to warn the clinician of the abnormality. If the defect is large, the child will not develop as quickly as other comparable children of the same age. As the child grows older, the heart will work harder to maintain the peripheral circulation, will dilate, and eventually go into failure.

The most common infection is that due to the *Streptococcus viridans*. Gross<sup>2</sup> feels that this infection is found in 25 per cent of the patients who live into adult years with a patent ductus arteriosus.

It is now a well known fact that a patient who suffers from subacute bacterial endocarditis and an associated patent ductus arteriosus, will undergo an almost immediate cure following closure of the patent ductus. We must realize that antibiotics have played an important role in the recovery of these patients.

In 1938 Gross<sup>3</sup> performed the first successful closure of a patent ductus. In 1946 Blalock<sup>4</sup> described a method of multiple suture ligation for closure of the defect. In the above interval many methods of closure and many different types of ligatures were employed.

*Diagnosis:* Children are little handicapped by this abnormality. The diagnosis is often made by an astute practitioner on routine examination. It is not until adult, or near adult life, that these individuals begin to undergo the stress and strain incident to their arteriovenous shunt. Early fatigue and dyspnea are often noted. The occasional patient presents in

acute heart failure. Should subacute bacterial endocarditis be superimposed, the classic signs of a blood stream infection become manifest: fever, sweating, weight loss, anorexia, petechiae, and ecchymoses.

Cyanosis is not a feature of this abnormality. If cyanosis is present, the patient either does not have a patent ductus arteriosus, or has a patent ductus and some other anomaly in addition, such as the tetralogy of Fallot.

The characteristic machinery murmur over the pulmonic area is the most dramatic finding upon physical examination.

If the pulse pressure is high, the capillary pulsations may be seen in the nailbeds or beneath a glass slide held against the mucous membrane of the lower lip.

The roentgenogram of the chest usually reveals a slight enlargement of the heart and an enlarged pulmonary conus. Following surgery the heart decreases in size and assumes a normal contour in the majority of the patients.

*Differential Diagnosis:* The differential diagnosis may be made in the majority of the patients with the stethoscope alone. However, all machinery murmurs are not necessarily operable patent ducti. If there is a history of cyanosis in a child or young adult, one must be wary. In young children an interventricular or even an interauricular septal defect may simulate a patent ductus. Coarctation of the aorta often has an associated ductus arteriosus.

Should a patient have attacks of cyanosis and signs of what is thought to be a patent ductus, the ductus should not be closed. In such a patient it is likely that the ductus arteriosus is the one anomaly that keeps the patient alive. One might say that nature has already done the Blalock-Taussig operation.

## Case Report

Mrs. S., 20741, was first seen at the age of 22 years, at which time she was two months pregnant. She stated that she had had a tonsillectomy at the age of eight years. As a child and young adult, she had noted that she tired easily and was unable to swim or run to the same extent as her contemporaries. A pediatrician had stated, when she was four years of age, that she had a congenital heart lesion.

Upon physical examination a typical machinery murmur was heard. There was no cyanosis and the blood pressure was 126/70.

The roentgenogram showed an enlarged pul-

\*Department of Surgery, The Wichita Clinic, Wichita, Kansas.



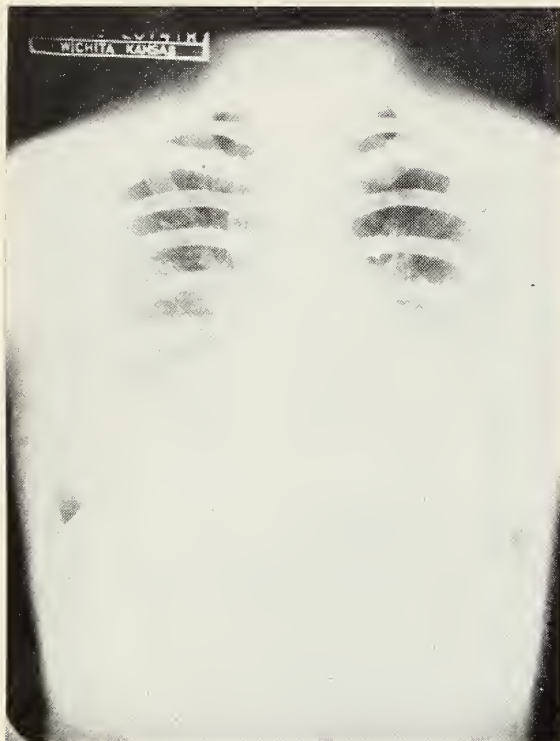


Figure 1

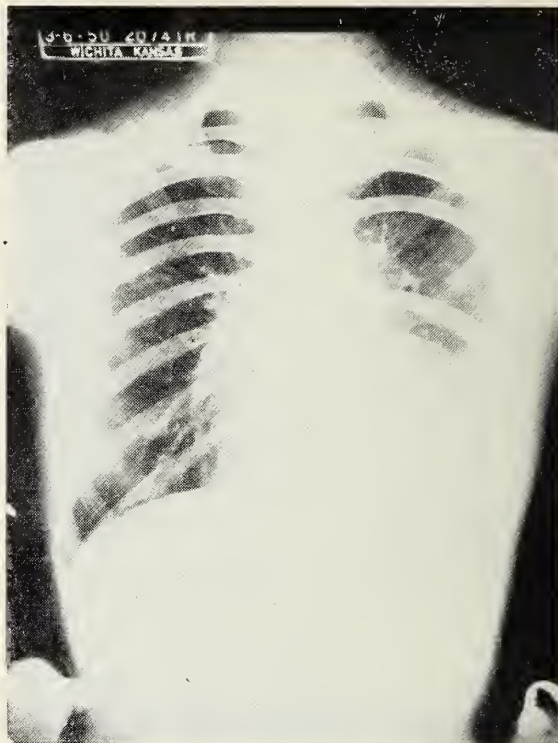


Figure 2

monary conus (Figure 1). The electrocardiogram showed early right heart strain.

She delivered spontaneously on August 9, 1949. She suffered no cardiac failure either ante- or post-partum.

On January 21, 1950, a short ductus arteriosus was doubly ligated and transfixed. The patient made an uneventful recovery and left the hospital on January 30, 1950. Her heart has reduced in size since surgery, and the pulmonary conus has taken on a normal configuration (Figure 2). She was allowed to return to full unrestricted activity on March 7, 1950.

*Prognosis:* Keyes and Shapiro<sup>6</sup> have stated that a patient suffering from a patent ductus arteriosus, alive at the age of 17, has half the life expectancy of the population as a whole; hence, these children and adults can look forward to a lifetime of approximately 32 or 33 years.

*Method of Closure:* Gross<sup>3</sup> first used simple ligation. He later developed a technique for complete division and suture of the ductus.

Blalock<sup>4</sup> developed a suture ligation technique in 1946. Gross felt that recanalization would occur if the ductus were not transected completely. In a recent publication Scott<sup>5</sup> has reported upon 180 patients who have had their ducti closed by the suture ligation technique. In this group there were five

deaths and one instance of recanalization. A simple ligation was thought to be the reason for the one instance of failure.

Certainly the suture ligation technique is simpler and easier to do. It is not attended by an incidence of recanalization greater than one per cent. In many hands, it is the procedure of choice.

#### Conclusion

1. Surgical closure of a patent ductus arteriosus is a relatively safe procedure which should be offered to children and young adults in relatively good physical condition and not in cardiac failure.
2. The incidence of recanalization is less than one per cent when the suture ligation technique is used.
3. Closure of a patent ductus arteriosus should be done even in the presence of a positive blood culture unless the patient is in cardiac failure.

#### Bibliography

1. Christie, A.: Normal Closing Time of the Foramen Ovale and the Ductus Arteriosus, *Am. J. Dis. Child.* 40:323, 1930.
2. Gross, R. E.: Surgical Treatment for Abnormalities of the Heart and Great Vessels, Chas. C. Thomas, Springfield, Illinois, pp. 8, 1947.
3. Gross, R. E. and Hubbard, J. P.: Surgical Ligation of a Patent Ductus Arteriosus, *Am. M. Assoc.* 112:729, 1939.
4. Blalock, A.: Operative Closure of the Patent Ductus Arteriosus, *S. G. & O.* 82:113, 1946.
5. Scott, H. W., Jr.: Closure of Patent Ductus by Suture Ligation Technique, *S. G. & O.*, vol. 90, #1, 91-95, Jan. 1950.
6. Keyes, A., and Shapiro, M. J.: Patency of Ductus Arteriosus in Adults, *Am. Heart J.*, 25:158, 1943.

# The Care of Hand Injuries\*

## Fractures and Dislocations

### I *Protection of the Hand* (Abstract of Article I)

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function.\*\* No attempt should be made to examine, cleanse or treat the wound until operating room facilities are available.

### II *Requirements of Early Definitive Treatment* (Abstract of Article II)

Early definitive care requires thorough evaluation of function by directed active motion. occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking definitive treatment, the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, the repair of injured structures, protecting nerves, bones and tendons and providing maximum skin coverage and the application of firm protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation during healing, and early restoration of function by directed active motion.

### III *Surface Injuries* (Previously described)

### IV *Lacerated Wounds* (Previously described)

### V *Fractures and Dislocations*

The purposes of treatment of closed fractures and dislocations of the bones of the hand are:

1. Protection of the injured bony structures from further displacement and avoidance of added damage to soft parts.
2. Restoration of normal relations of the bony structures.
3. Maintenance of the corrected relation of the bones to permit healing, at the same time

avoiding stiffening in position of non-function.

#### 4. Restoration of function.

These objectives are sought in the various stages of treatment.

#### 1. First-aid treatment

- A. Avoid manipulation or attempts at reduction until skilled attention is available and accurate diagnosis has been made.
- B. Prompt protection of the hand by complete immobilization in the position of function pending definitive treatment.

#### 2. Definitive treatment.

When proper skill and facilities are available, this consists of:

##### A. Diagnosis by means of

- 1—Inspection to determine swelling, ecchymosis, deformity, loss of function.
- 2—Palpation, gently employed, to discover bony irregularity, point of maximum tenderness, referred pain. This sign is of importance in discovering fractures of the long bones, particularly where deformity may not exist or is concealed by swelling. Gentle pressure in the line of axis of the long bone will result in pain at the fracture site.
- 3—X-ray examination. Obligatory where fracture or dislocation is suspected. Injuries in the region of the carpus require not only antero-posterior and lateral views but two or more oblique views in addition. Fractures of the carpal bones frequently fail to show in antero-posterior and lateral views.

##### B. Reduction. Restoration of normal position of bony structures should be secured at the earliest possible time by:

##### 1—Manipulation.

Whether reducing a fracture or a dislocation, full relaxation, preferably under general anesthesia, is desirable. Manual traction, pressure and moulding should be gentle and deliberate to avoid further soft-part injury.

\* Note: This is the fifth of a series of articles on "The Care of Hand Injuries." This material is prepared by the American Society for Surgery of the Hand and is distributed by the Committee on Trauma, American College of Surgeons, through its regional committees.

\*\* Position of function or position of grasp: wrist hyperextended in cock-up position, fingers in mid-flexion and separated, thumb abducted, slightly forward from hand and slightly flexed.



When attempts at reduction by manipulation are not promptly successful under these conditions, they should be abandoned in favor of (operative) replacement. Dislocation at the metacarpophalangeal joint of the thumb will almost invariably require open reduction.

## 2—Skeletal control.

To maintain reduction, particularly of oblique or comminuted fractures of phalanges or metacarpals or fractures into joints, control by skeletal fixation may be required. This may be applied by means of a length of thin Kirschner wire inserted transversely through the distal end of the fractured bone or through the terminal phalanx of the finger. The hand and injured finger or fingers should be supported in the position of function on a palmar moulded curved form or ball splint. This alone will ordinarily suffice to maintain proper position after reduction by manipulation. When control by skeletal fixation is required for maintenance of reduction, the transfixing wire may be connected to this splint on its palmar aspect or to a projecting frame, at or above wrist level, by elastic bands. Fixation or traction by means of a hole in the finger nail, or by adhesive applied to the finger, or by woven constricting device is not satisfactory. Continued straight traction on the fingers in the extended position is to be avoided.

## 3—Open reduction.

When manipulation fails to produce satisfactory reduction, open operative reduction is to be employed. This requires careful preliminary skin preparation and should be carried out under optimum operating conditions as described in II (Requirements of Early Definitive Treatment).

## 3. Maintenance of reduction.

Immobilization of bony injury following reduction should:

- (a) Be secured with firm, even pressure bandaging, permitting no motion at site of injury.

- (b) Be nonconstricting, not interfering with circulation.
- (c) Be comfortable, causing no excess pressure.
- (d) Preserve, as far as possible, the position of function, taking into account the normal concavities of the palmar surface of the skeletal structure (arches of the hand) and flexor surface curves of the phalanges. (Wrist in 30° dorsiflexion, metacarpophalangeal and distal interphalangeal joints in 45° flexion and middle interphalangeal joint in 90° flexion.) Flat splinting is to be condemned.
- (e) Leave free to move all joints whose motion will not jeopardize position and healing. During immobilization, active motion of all joints not necessarily confined is to be encouraged.

Immobilization may be accomplished by:

- (1) Splinting or plaster casting, applied as described in 2 B Reduction.
- (2) Internal fixation. Kirschner wires may be employed, following either open or closed reduction, as axial intramedullary splints for individual long bones (not to protrude into a joint); as transversely introduced fixation pins passing through adjacent bones to secure the fragments of metacarpal fractures; as penetrating fixation for fragments of carpal fractures.

Wiring or plating of fractures of the bones of the hand is generally satisfactory.

During the early period of immobilization, elevation of the hand is desirable. Immobilization of the injury should be consistent and continuous until healing and firm union have been established.

Healing of ligamentous injuries accompanying dislocations requires two weeks of immobilization following reduction.

Healing of fractures of the long bones requires immobilization for three to five weeks.

Healing of carpal bone fractures requires 12 to 14 weeks' immobilization. Fractures of the navicular may require four months to unite. If immobilized consistently for this length of time, most of these fractures will not require surgical intervention.

## 4. Restoration of function.

During the healing process, all joints not necessarily immobilized should be freely moved to activate their controlling muscles

and their use by the patient encouraged.

Following establishment of healing or firm union, restoration of function is secured by directed active motion, particularly through the means of exercise and occupational therapy.

---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the eleventh of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### Government Spending

The Council of State Chambers of Commerce in Washington, D. C., has prepared some interesting facts on government spending. Many of these arise out of the Hoover Report and others come from the Byrd Committee on Reduction of Nonessential Federal Expenditures. A few examples are listed below which the physician who is preparing a paper on socialized medicine might use to show the inefficiency of current government operations. It appears logical that government operation of a socialized medicine program would not be conducted at a higher level of efficiency than is the case in other forms of federal activities.

The Byrd Committee found more than 900 instances of duplication and overlapping among the 1,100-odd bureaus, agencies and departments of the government. For instance, it found 37 agencies carrying on activities in public health, 22 in housing, 27 in labor relations, 64 in business relations, 37 in foreign aid, 24 in rehabilitation, 16 in water power and power, 24 in mapmaking, 21 in transportation, 16 in education, and so on.

There are 61 separate government printing and duplicating plants in Washington, 23 in San Francisco, 25 in Philadelphia, 16 in Chicago, 16 in New York, six in Kansas City, six in Denver, and so on.

In contrast to well managed business concerns employing one personnel officer to every 200 or 250 employees, the government employs one to every 78 employees, and in some departments the ratio is as low as one to 38.

A House Appropriations Committee survey disclosed that it takes as many as 35 separate steps to "process" a routine letter received by the State Department. A tracer put on one such letter revealed that the letter landed on 21 different desks in three different buildings and traveled through each building twice.

The Hoover Commission, in its study of govern-

ment purchasing, reported that half of the three million purchase orders by federal civilian agencies alone (this excludes the armed services) in a typical year are for purchases amounting to \$10 or less—and it costs the government more than \$10 to perform the paper work alone on each of these orders. For example, the salary cost of putting through a purchase order by one agency in 1948 was \$13.30 if the supplies were purchased from stocks of the Federal Bureau of Supply and \$23.27 if the supplies had to be purchased by the Bureau of Supply for direct delivery to the agency.

The federal government owns three and six-tenths typewriters for every federal employee who uses one either on full-time or part of the time.

The Interior Department has published, at a total cost of \$61,242, a 23-volume series on the Columbia River Basin. The printing cost, per set, was \$36.06, but the publications were put on sale for \$6.90 per set. Many were distributed free of charge.

The volume of federal records has grown from approximately four million cubic feet in 1932 to 18.5 million in 1948. These records occupy 18 million square feet of space, equivalent to six Pentagon buildings, and their maintenance costs \$1.2 billion a year.

The Hoover Commission reports that on June 30, 1948, there were 155,000 patients in federal hospitals having a capacity of 255,000 beds. The Veterans Administration has contracted for additional hospitals of 15,000 beds and is planning for 23,000 more.

The Veterans Administration Insurance Service on June 30, 1948, had one employee for every 450 policies. A large commercial company issuing the same type of policies averaged one employee for every 1,762 policies. Two other companies have work-loads of about 1,700 policies per employee. The average time taken to process death claims in the VA was 80 days, while private insurance companies pay from 71 to 82 per cent of their death claims in 15 days.

The poor showing of VA insurance operations is partly explained by the fact that central office control of branch office activities is effected through 88 different manuals, 33 pamphlets, 665 technical bulletins, and 400 circulars. The Procedures Manual consists of 1,101 pages and is used in conjunction with 77 bulletins to direct the use of more than 900 forms.

A survey of field services disclosed that the government has 383 field offices plus a printing plant in Atlanta, Georgia, and offices in 61 different locations in Cleveland, Ohio. The Treasury Department alone has 14 different offices in Cleveland and the Department of Agriculture has 12 offices in that city.



## PRESIDENT'S PAGE

Dear Doctor:

This article is written in the midst of the A.M.A. convention at San Francisco. It is apparent here that our profession is very much on the offensive in several respects.

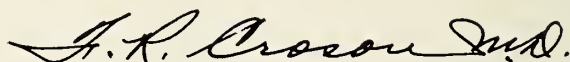
First, we are on the offense as far as treatment of disease is concerned. Our first duty is to the sick, and we hear and see new treatments for various illnesses. Atomic energy, radiation as a cause and also a treatment of disease, new and improved methods of diagnosis are subjects we see and hear constantly.

Second, we are on the offensive in supplying doctors to the nation, not only in the numbers needed but in the locations where they are needed, and the percentage increase in our profession is far ahead of that in our population.

Third, we are on the offensive in rescuing America from the trend toward national socialism. Our new president, Dr. Elmer L. Henderson of Louisville, gave a courageous and timely message to the people of our nation in his inaugural address and I quote him in part, "Men of little faith propose to place all our people—doctors and patients alike—under a shabby, government dictated medical system which they call compulsory health insurance. This is socialized medicine. It is not socialized medicine which they seek—that is only their first goal. Their real objective is to gain control over all fields of human endeavor and to strip the American people of self determination and self government."

We can all be proud of the part that the Kansas Medical Society has played and is playing in Medicine on the Offense.

Sincerely,

A handwritten signature in cursive script, reading "A. R. Crocon M.D.".

President.

## EDITORIAL COMMENT

## Statistics in Medical Literature

Considering the wide use of statistical data in medical literature it appears that more time might be spent during the physician's education in the preparation and evaluation of statistical material. This knowledge would be equally helpful to the writer as well as the reader of scientific papers. An excellent article on this subject appears in the May 24, 1950 issue of Staff Meetings of the Mayo Clinic under the title of "Calculation of Survival Rates for Cancer." While this discussion treats the specialized subject indicated in its title, it has a much broader practical application and is recommended on that basis.

The authors suggest that much statistical material in the medical literature is erroneous. The five-year survival rate for cancer varies as to the group that is included in the figures. It may consist of patients who have been diagnosed to have a malignant lesion, or those who have undergone operation, or only those who have survived operation.

Tables showing survival rates may be presented in one of two ways, the first of which is the direct method. Here data cards are counted and segregated according to information. If a five-year survival rate is desired, the basis must be those patients who have been exposed to the risk of survival for five years. Those who were operated within the five-year period must be excluded because it is not known that they can survive throughout the period. For example, if the series consists of 500 patients, 100 of whom were operated within the five-year period, they should be excluded and only that percentage of 400 who were living at the close of five years can be counted.

Next is the problem of untraced persons. Several possibilities are open, but the least hazardous is to eliminate them entirely. The figure thus reduced then becomes the basis on which this result may be obtained. For a 10-year survival rate the author must first obtain the number of patients who have been exposed to the risk of surviving 10 years.

The other approach is by the actuarial method. This is often easier to obtain, and, surprisingly, it is generally more accurate. Especially will this be true when the number of cases is small. It is conceivable that statistics based on a small series might present a more favorable calculated 10-year survival rate than for the five-year rate. Under the actuarial method this cannot happen. Moreover, if the successive rates for each year are desired, the direct method is laborious but the actuarial method provides a survival curve with comparative ease. All

that is needed is the cards giving the last report, whether living or dead, and the operation date. Step One consists of dividing the cards into two groups, dead and living at last report. These groups are then sorted in order of length of interval. The group listed as dead at last report is taken first, in which cards are counted for each year. The living record is similarly disposed of. To obtain the totals for persons living at the beginning of each year is a simple procedure of addition. The next figure is to obtain the number of person-years to which these persons were exposed to living. That is done by subtracting half the total reported living at last report during the interval under consideration from the total of persons living at the beginning of this interval, the reason being that when last heard from the group was living but it is presumed that not all will have survived the year. The method of selecting 50 per cent is arbitrary but probably as accurate as any that could be obtained.

Next comes the problem of computing the probability of dying in the interval. That is done by dividing those listed dead during any year under consideration by the figure obtained under the column headed Person-Years Exposed. The probability of dying in the interval then becomes a percentage figure. The final figure, that of percentage of survival rate, is simply obtained by fractions. An arbitrary figure of 100, or if more convenient 1,000 or 100,000 may be selected, and when that figure is divided into the figure obtained under the column headed Probability of Dying in the Interval, the percentage is obtained. It is then easy to prepare a graph.

By way of example, suppose out of 374 persons, 95 are shown to survive at the beginning of the sixth year. During that year, seven are reported dead on last report and nine to be living. Since the living group was lost track of somewhere during this year it may be presumed that they were living at least half the year, so 4.5 is subtracted to obtain a figure for the person-years exposed, which is 90.5. The probability of dying in the interval between this and the successive year is 0.0773, which is obtained by dividing the total number of persons living in the beginning of this interval into the total number that died during this interval, that is dividing 95 into seven, according to this illustration. To obtain the survival rate for that year requires only figuring the percent that the probability of dying in the interval is to 100. The figure in this example would be 29.1.

To contrast this with average life expectancy causes difficulty because age groups might wish to



be considered. Under such circumstances the writer takes on the additional risk of inaccuracy that comes from smaller series. The normal age survival curve may be obtained from numerous sources. But again a problem exists in interpretation since it is an algebraic and not an arithmetical problem. The authors cite a problem in elementary algebra. If one man shoots at a rate of 70 per cent and a second at a rate of 10 per cent, out of 100 targets the two will not strike 80 but rather 73 targets. The same thing applies if those figures can be substituted to represent this problem. The cancer death rate is 70 per cent. The death rate from other causes is 10 per cent and the total is 73. In the article this is explained in detail but is mentioned here only to call attention to the many errors that might occur in the preparation of statistics unless great care is given to this portion of scientific literature.

The statistician may wish to trace a survival curve, for instance contrasting the average duration of life with the average duration of life of those patients who survive a cancer. Most statistics on this subject trace the curve only for a specified period, which is inaccurate. To obtain this information the author should follow the study to the point of zero survivors, and that of course is a difficult problem. Most statistics of this nature give only the shortness of life, while if carried to a point of zero survivors it would be found that the length of life would be considerably improved. Since that material is not available at the time the author wishes to prepare his paper, a median figure, a sort of average, is selected. This is the length of time required for 50 per cent of the individuals to have died. While not accurate in the overall picture it does at least provide a basis on which the other might be computed.

This lengthy review of a long article is presented here to point out the difficulties that will be encountered in attempting to compile statistics that are accurate and meaningful. The subject is fascinating and a short period spent in reviewing the problems of statistics will richly reward the physician who writes as well as the physician who reads.

### Mind Your Own Business

The advice, "Mind your own business," is generally considered defiant and offensive, but even those most sensitive to harsh words regard it as wise counsel. However, no advice is good always; it must be tempered with judgment as to time, environment and circumstances. An example of judgment with which we heartily agree is found in an editorial published last month in the news letter

of the Kansas Society of Professional Engineers. The title was "Mind Your Own Business."

The thoughtful engineer who composed the essay asked pertinent questions, "What is your own business?" "Do you actually have interests that are solely yours and yours alone?" He judged that in our modern, complex civilization no dividing line can be drawn between the business of one man and that of another. Each must consider his neighbor's interests as well as his own and expect to be affected by the adversities and successes of others. As an example the author cited the time of the depressing thirties, when economic forces which contributed to the collapse of one business exerted their influence also on others, with each collapse making other firms more vulnerable.

On the basis of such interlocked fates, the engineer views the threat of socialized medicine as a threat to those in his own profession, to the lawyer, to everyone. He recommends that engineers forget about minding their own business and concern themselves with the problem physicians now face, the threat of socialized medicine.

"A picture perhaps to appeal to the engineering mind," he said, "is to think of modern society as a bridge held up by piers made up of the various functions of American type living, among them the professions. The flood waters (socialism) are raging down the stream or river. The medical profession is one of those piers near midstream withstanding the terrific force of the turbulent water carrying its plunder with it. The stresses in the pier increase, from this unexpected lateral force, the pier now shows strain and, if the force should increase, it will give way leaving the other piers (the other professions) with increased stresses far beyond the yield point. Before the flood waters subside all the piers are gone and the bridge has collapsed and fallen into the murky, vicious, raging waters, not now able to stand on its own but travel where and how the stream carries it. It has no choice in its destination. To hold the bridge in place, all piers must be held intact. . . .

"Certainly the medical profession does not have the numerical strength to even scratch the surface politically, therefore he needs numbers. More strength to exert influence in legislative matters. If nothing more, moral support. The engineer can get better acquainted with the doctors in his community, express a desire to assist. Perhaps he can attend medical meetings as a speaker or invite doctors to appear before his own organization. He could write articles to appear in print. He can contact his legislative representatives. Ask his own family physician the part he, the engineer, can play. Entice the engineering organizations to become ac-

tive in support of the doctors to defeat the program. In short, get busy. Time is wasting. This may be the turning point, and let us not say in retrospect, 'It was too little and too late.' The flood washed out the whole bridge.

"Can the engineer afford to just mind his own business? We shall hope not."

The generous support of the engineering profession is appreciated and welcomed. With this help, and with the help of all other groups representing piers withstanding the flood, the bridge can stand.

### Medical Student Loan Fund

Evidence of the interest of the Kansas Medical Society in the University of Kansas School of Medicine and its students may be found in the Society's recent gift of \$10,000 to the University of Kansas Endowment Association to set up "The Medical Student Loan Fund of the Kansas Medical Society."

Some medical societies concern themselves only with licensed physicians, taking no active interest in the students of today who will be members of the medical profession in the future. In a number of ways the Kansas Medical Society has shown its interest in the professional side of the students' lives, through its preceptorship program, through the annual observance of Kansas Medical Day at the University of Kansas Medical Center, through complimentary subscriptions to the Journal for junior and senior students, through dissemination of information on the need for physicians in the state, through many other varied services always available to students. By this latest action the Society will help, in a small way, in an economic sense.

The following letter accompanied the gift check:

Mr. Irvin Youngberg, Executive Secretary  
University of Kansas Endowment Association  
Lawrence, Kansas

Dear Mr. Youngberg:

The Kansas Medical Society, by action of its House of Delegates, on May 16, 1950, approved a gift of \$10,000 to be given to the University of Kansas Endowment Association. Please find enclosed a check for \$10,000.

This gift is made with the expressed purpose of assisting students, during their third and fourth years in the School of Medicine at the University of Kansas, who are in need of financial aid. By action of our governing body, the following conditions were stipulated as to the use of this fund:

(1) This fund is to be known as "The Medical Student Loan Fund of the Kansas Medical Society" and is to be set up as a separate fund.

(2) That loans from this fund be limited to

third and fourth year students at the University of Kansas School of Medicine.

(3) That the maximum loan at any one time per student be not more than \$500.

(4) That the loans be made on the authorization of the Dean of the School of Medicine.

(5) That an advisory and grievance committee, consisting of the Dean of the Medical School, the President and the President-Elect of the Kansas Medical Society, is established, whose duty shall be to settle any grievances or controversies which might arise in connection with student loans.

(6) That an interest rate of two per cent be charged on these loans.

(7) That the loans will fall due not later than four years after graduation from the School of Medicine but that they may be renewed on an annual basis if proof of the necessity of this is forthcoming.

(8) That the Dean of the School of Medicine provide the President of the Kansas Medical Society annually the names of the students to whom money was loaned and the amounts of those loans made during the previous year.

With best wishes, I remain

Very truly yours,

Oliver E. Ebel

Executive Secretary

### Good Citizenship

This is another good idea from Michigan, based on the startling results obtained in a survey on how Michigan doctors voted in the last election. They are as well informed on problems confronting free enterprise as are the physicians anywhere in this country. They were told to vote, but look at the results! Election books reveal that in one county only 42 per cent of the doctors took the trouble to vote. And that county produced the *best* record in the state. From there the percentage went downward to the poorest county with a score of zero!

Other states conducting similar surveys learned the same astonishing answer, and there is no reason to believe that Kansas could produce a very different story. Doctors simply did not vote in the last election. They were unwilling to give this nation of theirs the benefit of their intelligent selection. They want free enterprise, but they want someone else to guarantee it for them. They want freedom, but they want someone else to guard it.

Now Michigan plans to do something about it. In this election the good citizenship campaign will make every physician aware of his responsibility. This time he will vote. Committees in each county check registration books. If a doctor has not regis-



tered he is reminded of this fact and is urged to do so—not only the physician but his family and his office assistants as well.

Each doctor is asked to go further. He will urge every patient he sees to register and vote. He will do this daily without ceasing until the election is over. He will also accept the responsibility of talking to at least 20 of his friends about this and his wife will do the same. On election day these 20 will be called again.

Voting, as important as it is, represents only the smallest portion of an individual's responsibility. Good citizenship requires the active support of Americanism in all its phases. It means uniting with other individuals and groups to enlighten all people in their responsibility. It means taking a sincere interest in politics and public affairs on all levels. It means understanding the machinery of government and the qualifications of those persons who desire to run this machinery. It means making freedom your own personal business.

Voting is only one part of this but it is important. It's not merely a privilege, it is a solemn responsibility. Therefore, it should be discharged by every physician in Kansas. Become acquainted with the candidates, learn their views regarding good government, then vote for whoever best qualifies to meet the standards you have selected. But vote, for that is the fundamental principle of good citizenship.

#### Survey of College Health Services

A survey of college health services is now being conducted by the American Medical Association Bureau of Medical Economic Research, the first such survey since 1936. The purpose is to determine (1) what health services were rendered in 1949-1950 to college students, faculty members and employees through the college health service, (2) how these services were financed, and (3) what use the colleges are making of insurance companies, Blue Cross and Blue Shield types of health insurance plans.

#### Faculty Changes at K.U.

A number of faculty promotions at the University of Kansas School of Medicine were announced last month by Chancellor Deane W. Malott.

Dr. Albert N. Lemoine, Jr., who has been on the faculty since 1947, became chairman of the Department of Ophthalmology, succeeding Dr. John A. Billingsley, who wished to be relieved of some of his teaching duties. Dr. Lemoine is a diplomate of the American Board of Ophthalmology and a member of the Society for Research in Ophthalmology.

Other promotions announced were as follows:

Dr. William H. Algie to assistant professor of medicine; Dr. Max S. Allen, associate professor of medicine; Dr. Raymond B. Anderson, associate in pediatrics; Dr. William B. Barry, associate in otorhinolaryngology; Dr. Robert E. Bolinger, assistant professor of medicine; Dr. Kenneth Cox, associate in gynecology and obstetrics; Dr. Mahlon H. Delp, professor of medicine.

Dr. Harry L. Douglas, assistant professor of medicine; Dr. Ernest L. Glasscock, associate in pediatrics; Dr. Leroy Goodman, assistant professor of gynecology and obstetrics; Dr. Lee H. Leger, associate professor of medicine; Dr. Donald N. Medearis, associate professor of pediatrics; Dr. Sidney F. Pakula, associate in pediatrics; Dr. Edward Rabe, assistant professor of pediatrics.

Dr. David W. Robinson, associate professor of surgery and oncology; Dr. Clark W. Seely, associate in pediatrics; Dr. Glen R. Shepherd, associate in medicine; Dr. William T. Sirridge, associate in medicine; Dr. Harry Statland, associate in medicine; Dr. Barnard Trowbridge, associate in otorhinolaryngology, and Dr. Sloan J. Wilson, associate professor of medicine.

#### Survey of Grievance Committees

A survey of progress being made in the establishment of grievance committees by state and county medical societies, in accordance with a resolution passed by the House of Delegates of the American Medical Association in December, 1949, is now being made by the Council on Medical Service and the Department of Public Relations.

Of 37 states and the District of Columbia for which information is now available, 27 have made provision for handling grievances or complaints. Only 14 of the 27, however, use the name "grievance committee," indicating dissatisfaction with that title.

#### Optical Services Expanded

A series of eight new iris colors to supplement the present stock eye color range has been announced by the American Optical Company, which also reports several supporting services to give patients the equivalent of a custom-made eye at reasonable cost.

Any one or all of the following alterations are obtainable: (1) special sclera (either darker, lighter, yellow wash, or blue wash); (2) change in veining; (3) any color alterations necessary, including addition of flecks or additions of arcus senilis around the iris; (4) build-up of a normal stock shape from an impression taken of the socket or from wax additions; (5) special combinations not carried in stock.

## Case Reports from the University of Kansas Medical Center\*

## Tumor Conference

Edited by R. E. Stowell, M.D.

## Psychological Aspect of the Cancer Patient

Dr. Stowell: There are many aspects to the cancer problem and the cancer patient. We frequently concentrate on the diagnostic and treatment aspects of cancer cases and pay scant attention to the patient's mental and social reactions to cancer. Doctors must regard patients as more than problems with signs, symptoms and laboratory findings which represent exercises in diagnosis and treatment. Some of the more important yet neglected aspects of the cancer patient are his psychological reactions, and therefore we will devote this tumor conference to these problems. Dr. Roth, do you think the cancer patient should be told he has cancer?

Dr. Roth: If one knows the patient, what kind of background he has and how he has faced catastrophic events in the past, one can judge how he will react to being told he has cancer. Provided that you make allowances for the personality of the patient and prepare him, it is best to tell the patient the truth.

Dr. Orr: Psychiatric problems of more or less serious nature occur in surgical practice daily. These problems must be met by common sense and sympathetic understanding.

What effect do our present day methods of recognition and treatment of cancer have upon the mind of the patient? The prospect of having a cancer has always instilled fear in the hearts of the patients. I believe that we can safely say that our present methods of advertising to the public the dangers of cancer have increased this fear. Are we justified in creating this fear? I have heard arguments both pro and con concerning the publicizing of cancer. To those who do not believe in exciting the public about their health, I would ask this question. How can we as physicians bring people to the realization of impending health danger unless we publicize the danger? It is to be expected that fear of cancer will be exaggerated by many. This fear, I believe, will not be so deep-seated that it cannot be dispelled by a sympathetic physician. It is the obligation of the physician not to increase the fear by injudicious handling of patients.

One of the shortcomings of physicians is their lack of time for personal evaluation and treatment of patients. Many nervous and apprehensive patients have told me of rebuffs by their physicians. Such unintentional seeming lack of interest adds to the

fear of patients particularly when cancer is concerned.

The average intelligent patient will seek advice when he fears cancer. There are a few who are not disturbed by any type of disease until they are hopelessly afflicted. There are another few who will not consult a physician because of the fear that something serious, especially cancer, will be found. And there are still others who believe that there is a Divine Providence who will protect them from the dangers of disease—and so they wait. A few will not accept good advice when it is given. These last two groups are hopeless. On close analysis, the conduct of these patients will be found to be based upon fear. They fear both the disease and the treatment, particularly the knife.

When a patient has incurable cancer, should he be told of his condition? A few patients will demand to know the whole truth. They must be told the truth. Others will not want to know the truth, and still others may ask about their condition and the whole truth can and should be evaded to avoid the great depression that is sure to follow the dreaded facts. To create false hope by withholding the truth may smack of dishonesty, but I do not believe any conscientious doctor can be considered dishonest when he tries to protect his patient from the terrible mental suffering that may be experienced by the incurable. When dealing with these incurable cancer patients, to withhold the truth is not to tell a lie. It is hardly necessary to state that the nearest of kin should be told the condition and the prognosis of the cancer patient in detail.

Dr. Friesen: We have some objective evidence<sup>1</sup> from patient interviews that will answer some of these questions regarding the patients' fear of being told they have cancer. We interviewed 100 patients with and 100 without cancer. Of the patients with cancer, 89 per cent wanted to be told if they had cancer. Although doctors and relatives of patients may believe they are protecting the patients from worry by not telling them they have cancer, usually they are only making it easier for the relatives. Many patients with cancer already are suspicious of the diagnosis. When 24 cancer patients were asked whether knowing they had cancer had altered their routine of existence or style of living, outside of any concomitant physical disability, the answer was "no." Before patients knew they had cancer, they thought their physicians were wasting time and money and were unable to diagnose their cases. A number of

\*Cancer teaching activities aided by a grant from the National Cancer Institute.



patients became depressed when told they had cancer, but their emotional instability did not last longer than 24 hours to three or four days afterwards; they agreed they should have been told. Of the 100 patients without cancer interviewed, 93 indicated a desire to be told if a complete examination indicated they had cancer.

Dr. Delp: Some people think that the lay education program concerning the dangers of cancer should be as successful as the program with respect to syphilis. The only similarity to date between these two programs is the amount of publicity given. There is no doubt that syphilis has been brought before the public and something has been done about this disease. It is comparatively easy to make a diagnosis of syphilis with inexpensive serological reactions and to treat early syphilis effectively with penicillin. We are by no means prepared to meet the problem of diagnosis and treatment of cancer with the same ease or efficiency. A diagnosis of cancer implies to the patient the same sort of situation as a judge reading the death sentence to a prisoner. With cancer the patient fears death, with syphilis he only fears social ostracism.

Our technological skills, propaganda and advertising have so far surpassed the ability of the medical profession to meet the problems of cancer that such publicity has a bad effect. These false hopes cause resentment of medicine's inadequacy on the part of the patient before he dies and by his relatives after he dies.

Dr. Friesen: In the days before syphilis was as readily diagnosed and cured, there was about the same amount of fear and anxiety as is now shown by cancer patients. Today's progress in syphilis could not be foretold then. We cannot say when better diagnostic tests and therapeutic methods will permit comparable good results in cancer. Early treatment of many types of cancer today carries a better prognosis than many types of heart disease.

Dr. Delp: Some men say that this whole program is a grand hoax which the psychiatrists are perpetrating to get more psychiatric material. During the last war the psychiatrists pointed out convincingly that every human being has his own end point for stress and strain, beyond which he develops emotional instability. Now I contend that with the volume of stress coming over our radios—"180,000 cancer deaths last year. Have you seen your doctor this month? Do you know whether you have a cancer? You may be next!"—practically all of our 150 million people have reached their stress point. If the medical profession had been prepared for this publicity with a program of delivering actual curative therapy, the present bad situation would be quite dif-

ferent. These opinions are based on numerous observations on patients coming into my own office, with our inability to make an early diagnosis by our best methods and to cure cancer even when diagnosed early.

The diagnosis and treatment of cancer is so capricious that I am impressed by the hopelessness of the frequent statement of radiologists and surgeons that "I would have saved your life if you had come a few months earlier." The medical profession must beware of the assumption of powers of omnipotence!

After being so critical of this program, I want to offer some constructive suggestions. Most intensive efforts should be directed toward education of medical students and practitioners to bring the greatest return in the shortest time. All this lay education should be immediately stopped.

Dr. Friesen: It isn't always the cancer patient who is at fault for not getting early treatment. A recent study indicated that patients were responsible for an average delay of seven to eight months in visiting their doctor. The average delay between the time the patient first saw the physician and treatment was started was six to seven months. The physician is often as guilty as the patient in not getting early treatment for cancer.

Dr. Stowell: Although the professional educational program should be increased, I do not think lay education should be discontinued. It might well be directed along lines of emphasizing the hopeful rather than the fearful aspects of cancer, as well as pointing out that cancer is a diverse group of diseases, some of which can be readily diagnosed and cured and others which cannot.

Many doctors think that cancerphobia is a symptom of a pre-existing neurotic background and not caused by newspapers, radio or motion pictures. If these people aren't neurotic about cancer, they would be about heart disease, insanity or pregnancy, or something else on which they can hang their neuroses. This difficulty is not new. According to an account by Wolfe, "in the year 1734, suddenly the whole female population of Bensancon was overcome by a fear that they were suffering from cancer of the breast or might be so affected in the future. This followed the suggestion of a surgeon to the women of that city that they examine their breasts for lumps. The sequel of this announcement was that all women examined their breasts so often and so long and squeezed them so much that a certain number really did develop lumps which were subsequently speedily removed by the surgeon with the greatest success."

Dr. Roth: If the neurotic patient goes to the psychiatrist and the cancer patient to the surgeon or

radiologist for treatment the situation would be improved. For the average patient with cancer the main problem rests with the general practitioner whose office should be the best cancer detection center.

#### References

1. Friesen, S. R., Kelly, W., and Wangenstein, O. H.: Do Cancer Patients Want to be Told? *Surgery* (In Press).

### Advertising Program of A.M.A.

An advertising program including three media, newspapers, magazines and radio, has been announced by the American Medical Association for the week of October 8. A total budget of \$1,110,000 has been approved by the Board of Trustees with \$560,000 allocated to newspapers, \$300,000 to radio and \$250,000 to national magazines.

Whitaker and Baxter, directors of the A.M.A.'s National Education Campaign, announce the purpose as (1) to make the American people "health insurance conscious" and to encourage the extension and development of prepaid medical and hospital care as a means of taking the economic shock out of illness, and (2) to alert the American people to the danger of socialized medicine and to the threatening trend toward state socialism in this country.

The newspaper advertising schedule calls for blanket coverage of every bona fide daily and weekly newspaper in the United States, approximately 11,000 in total, including those in Hawaii and Alaska. The space reservation will approximate 70 inches in all papers.

About 30 of the leading national magazines and a score of advertising trade publications will be included in the magazine portion of the program.

The radio advertising program calls for an intensive "spot announcement" campaign, utilizing time on some 300 radio stations, covering every state and Hawaii and Alaska.

### Study of Bomb Survivors

Japanese survivors of the atomic bombings at Hiroshima and Nagasaki have apparently recovered from the acute or immediate effects of the bombings, but within recent months the first evidence of delayed effects, the formation of eye cataracts, has come to light, according to records of the Atomic Bomb Casualty Commission of the National Research Council.

Since 1947 the A.B.C.C. has conducted continuous studies of the medical and genetics effects on the populations of the two bombed cities. Findings are reported in the scientific literature and are made available to the Department of Defense, National Security Resources Board, and other agencies who will be responsible for defense and relief meas-

ures in the event of an atomic disaster in this country.

At present the survivors have recovered from such immediate effects as loss of hair, temporary infertility, and blood changes. The study of long-range effects will require many years since definite information on inherited effects can be obtained only by observation of the victims' children and grandchildren.

A preliminary ophthalmological study was started last year and revealed 10 cases of cataracts believed to have been caused by the bomb. Subsequent examination of 1,000 persons who were within 3,000 feet of the point above which the bomb exploded, has led to the discovery of 40 certain cases of radiation cataract and an additional 40 suspected cases.

### Trial of Penn Cancer Test

Arrangements have been made by the National Cancer Institute, Public Health Service, for a trial of the recently reported Penn cancer diagnostic test, described by Dr. Leonard A. Scheele, Surgeon General, as "most promising of the general tests for cancer so far reported." The tests will be conducted in Seattle as a cooperative project of the University of Washington and the Public Health Service.

The test is based on a serum flocculation reaction discovered in blood of cancer patients by Dr. H. S. Penn, of the University of California at Los Angeles. According to a report made recently, the test provides a simple and accurate means of determining whether an individual has cancer. In the procedure an extract or antigen derived from human cancerous liver tissue is added to blood serum taken from the person to be tested. The serum forms particles in suspension if the person has cancer, but remains cloudy if he is cancer-free.

Used on 4,500 persons in Los Angeles, the test was negative for 99.5 per cent of normal persons and positive for 98.6 per cent of those with cancer. Hospitalized cases of arthritis, liver disease, active tuberculosis, syphilis, and other diseases, and pregnancy, gave approximately 13 per cent false positive reactions.

### Ultra-High Penetrating X-rays Produced

Development of the first 4,000,000 electron volts linear acceleration high voltage equipment for cancer treatment and nuclear physics research was announced by Phillips Industries at the International Radiological Congress held in London. The equipment produces ultra-high penetrating x-rays and has a rating of plus or minus 250 roentgens per minute at 40 inches distance. The first unit is now in operation in England, and more units will be available by the end of the year.



---

## THE KANSAS PRESS LOOKS AT MEDICINE

---

### Does the Pocketbook Come First?

The Independent, of Bridgewater, Mass., recently carried an article by a farm bureau spokesman who said, "Sad but true, most of us are more interested in our pocketbook than in our liberties."

The reason for this observation was that two meetings had been held in that area. One had to do with socialized medicine, which the farm bureau federation has strongly opposed. It was expected that about a thousand people would turn out but the actual attendance was only 200 and many of them were doctors. The next day there was a public hearing on plans to repeal the tax on cigars and tobacco, and 750 people appeared.

The writer said, "The general public should have been far more worried over the medicine that the government is trying to make us take than in the price of a good cigar. . . . Socialized medicine is just one step in a planned economy where government takes over certain key functions and controls all the rest."

Here is a tragic example of public lethargy toward great issues that will influence all our lives and the lives of generations to come. Socialized medicine, as Lenin once said, is an arch in the structure of the communist states. Current proposals for compulsory government health insurance are simply a prelude to eventual socialization. They are part and parcel of an all-inclusive scheme for giving the government iron-handed power over the resources and energies of the nation. And that is certainly more important than the price you have to pay for tobacco!

Every possible means must be used to awaken the general public to the dangers that confront them. A sleeping nation, unaware of what is going on, is just what the socialists want.—*El Dorado Times*, April 24, 1950.

\* \* \*

Not even the promise of free medical service during his stay in Blighty will lure P. H. Baum, general manager of the Wm. Kelly Milling Co., to England for an international millers convention come summer.

Baum's enthusiasm for our own semi-Socialistic government is well controlled, and he doesn't believe he would enjoy the real McCoy.

"Even if you were sorely in need of medical service you might have to queue up and wait long hours, even weeks, before the doc could get to you," we warned him before his announcement he wouldn't go.

Somehow we can't see socialized medicine work-

ing in the way the bright eyed bureaucrats picture it. The under-privileged homes produce a majority of the night calls which disrupt physicians' sleep and health. A socialized doctor isn't going to disturb his rest to make a call. He'd simply tell the caller to "come around tomorrow afternoon at two and await your turn." There would be no incentive to make the call.

Socialism is a beautiful theory, but just won't work. When the government sets out to make everyone as poor as the poorest, as has been done in Britain, it takes away the incentive on which our country has been built.—*Hutchinson News-Herald*, April 23, 1950.

---

### Laboratory for Research Opened

The opening of a new laboratory for research involving radioisotopes at the National Institutes of Health of the Public Health Service was announced last month by the Public Health Service. It is one of the few radioisotope laboratories in America designed solely for medical research.

Some of the projects to be studied at the laboratory are: (1) a study with radioactive iodine to determine how the thyroid gland function depends on dietary intake for both normal and thyroid tumor tissue; (2) a study of the biological effects of Alpha particles from radon, and a comparison of these effects with other types of radiation, especially x-rays; (3) a study of radioactive phosphorus involving the metabolism of various phosphorus compounds; (4) a study with Carbon-14 to determine the distribution of chemotherapeutic agents thought to have value in the treatment of cancer.

The working center of the new unit consists of five chemistry laboratories with concrete walls two feet thick. Each of these is equipped with three closed hoods, making possible as many as 15 different experiments at one time. Operations are under the constant supervision of a radiation safety group consisting of five scientists who are trained in the proper handling of radioactive substances.

---

There is a close relationship between the atmosphere and the climate and the presence or absence of substances in the air which produce asthma and hay fever in allergic persons, according to Dr. Carl P. Wagoner of Vancouver, Washington, in an address at a recent meeting of the American College of Allergists. Too often, the doctor warned, these reactions are mistaken for a common cold and treated with sulfa drugs and the new antibiotics unnecessarily. In this way, these allergic patients all too frequently become seriously allergic to the drugs so uselessly administered.

## BLUE SHIELD

### Survey of Charges

December 1, 1949, when the current Blue Shield plan was put into effect, a new service statement was mailed to physicians. The service statement requests that physicians state the actual charges they are making in the case without reference to whether or not the patient has Blue Shield. In other words what is desired is an actual picture of the regular charges made by participating physicians for the various procedures.

The first survey relating the Blue Shield payment to the charges made by physicians has just been completed. This survey is based on the majority of the surgical cases paid during April, 1950. Of 1,814 total surgical cases, 1,521 showed the actual charges made by participating physicians. In other words, a high percentage of the reports was filled out accurately.

The study shows that Blue Shield paid participating physicians 69 per cent of their actual charges for the procedures. While this average payment reflects the fact that Blue Shield is doing a good job throughout the state in the way of protection, there are some variations in certain procedures in certain areas which do not reflect this excellent picture. The study made also indicated in several instances that the highest charge made for various procedures was three and one-half to four times the amount of the Blue Shield allowances, which means that a few members may have the idea that the protection offered by Blue Shield is not very substantial. Listed below are a few leading procedures excerpted from the April study.

<i>Procedure</i>	<i>Average Payment</i>	<i>Average Charge</i>
Tonsillectomy	\$ 27.00	\$ 37.00
Lacerations	9.00	12.00
Appendectomy	100.00	126.00
Circumcision, baby	5.00	9.00
D and C	24.00	37.00
Hemorrhoidectomy, internal	50.00	91.00
Hernioplasty, single	74.00	111.00
Circumcision, child	9.00	13.00
Cholecystectomy	150.00	177.00
Panhysterectomy	149.00	203.00
Hysterectomy, vaginal	126.00	183.00
Blood transfusion	14.00	20.00
Breast tumor, removal	24.00	39.00
Tumors complicated, removal	24.00	62.00

These comparative studies will be made on a quarterly basis in the future and it is expected that they will be of great value in helping the Blue Shield Board arrive at a better understanding of the actual charges being made by physicians

throughout the state. Participating physicians are urged to cooperate in this statistical program by completing the service statement showing their actual charges in each case.

### Inauguration Broadcast

For the first time in the history of the American Medical Association, the inauguration of the new president, Dr. Elmer L. Henderson, Louisville, Kentucky, was broadcast. The program, originating at the A.M.A. meeting in San Francisco, was carried over the Mutual and A.B.C. chains.

The House of Delegates was actually in session during the half-hour broadcast. Speaker F. F. Borzell, Philadelphia, called the House to order, after which brief addresses were given by Dr. Louis H. Bauer, Hempstead, New York, chairman of the Board of Trustees, and Dr. Ernest E. Irons, Chicago, the retiring president. Dr. Henderson then delivered a 20-minute address.

In closing the program, the announcer said, "Today, American medicine is leading a great crusade to mobilize loyal Americans to preserve the ideals of free men—and to halt the march of state socialism in this nation. This program has been a dramatic presentation of doctors in their new role as crusading citizens."

### Award for Research on Infertility

The American Society for the Study of Sterility offers an annual award of \$1,000 known as the Ortho Award for an outstanding contribution to the subject of infertility and sterility. Competition is open to those in clinical practice as well as individuals whose work is restricted to research in the basic sciences. Essays for the 1951 contest must be received not later than March 1, 1951.

Details of the award may be secured from the Society, 20 Magnolia Terrace, Springfield, Massachusetts.

### Fellowships Offered by A.C.P.

A limited number of fellowships in medicine, designed to provide an opportunity for research training in basic medical sciences or in the application of these sciences to clinical investigation, will be available from July 1, 1951, to June 30, 1952, according to a recent announcement from the American College of Physicians. The fellowships are for the benefit of physicians preparing for a teaching and investigative career in internal medicine. Stipends will be from \$2,200 to \$3,200. Application forms may be secured from the College, 4200 Pine Street, Philadelphia 4, Pennsylvania, and must be submitted in duplicate not later than October 1, 1950. Awards will be made in November.



## ACTIVITIES OF MEMBERS

Four Wichita physicians, Dr. L. A. Donnell, Dr. Bruce P. Meeker, Dr. Clyde W. Miller and Dr. Lester Nix, are constructing a \$100,000 building on North Minnesota, Wichita, under the corporation name of Medical Arts Building, Inc.

\* \* \*

Dr. Athol Cochran, Pratt, was guest of honor at a reception at Iuka May 21. Dr. Cochran is moving from Pratt to Joplin, Missouri.

\* \* \*

Dr. O. R. Brittain, Salina, made a gift of a portable x-ray machine to Kansas Wesleyan University, Salina, for use in physics courses.

\* \* \*

Dr. Robert Hull, formerly of Wichita, is now associated with Dr. L. Claire Hays in practice in Cedar Vale and Sedan.

\* \* \*

Dr. Frank C. Boggs, Topeka, served as chairman of a committee planning a reunion of the class of 1910 of the Washburn Medical School. Other Kansas physicians in the class are Dr. Porter Brown, Salina; Dr. O. A. McDonald, Topeka, Dr. William A. Smiley, Junction City. The class of 1900 met with the group. Dr. W. L. Borst, Topeka; Dr. H. O. Hardesty, Jennings, and Dr. J. C. Shaw, Topeka, were members of the class of 1900.

\* \* \*

Dr. Galen M. Tice, of the University of Kansas Medical Center, was one of the guest speakers at a meeting of the South Dakota Medical Society held in Huron, South Dakota, May 23. His subject was "Differential Diagnosis of Malignancy in the Gastro-intestinal Tract."

\* \* \*

Dr. A. E. Bair, who has been practicing in Independence during the past three years, has gone to Wichita for a three-year residency in surgery at Wesley Hospital.

\* \* \*

Dr. R. M. Gouldner, Wichita, gave the address at graduation exercises at the St. Francis Hospital School of Nursing, Wichita. Dr. A. E. Hiebert, Wichita, represented the hospital staff on the program.

\* \* \*

Dr. C. C. Hawke, Winfield, spoke at a meeting of the American Association on Mental Deficiency at Columbus, Ohio, recently and was elected a member of the council of the association. Later he addressed a meeting of the Michigan Governor's Commission in Ann Arbor, Michigan.

Dr. F. C. Beelman, secretary of the Kansas State Board of Health, addressed the Utah Public Health Association at Logan, Utah, May 25. He then went to Portland, Oregon, to attend the annual meeting of the American Board of Preventive Medicine and Public Health, serving as a trustee on the board.

\* \* \*

Dr. Paul W. Schafer, chairman of the department of surgery at the University of Kansas Medical Center, is in Japan this summer as a member of the Unitarian service committee's medical mission. For three weeks, beginning July 17, he will teach representatives from 22 Japanese medical schools, at Tokyo, and for a second period he will teach students from 24 schools at Osaka.

\* \* \*

Dr. Anthony Rossitto, Wichita, discussed responsibilities of nurses at a banquet of the St. Joseph's-Wichita Hospital Alumnae Association, Wichita, May 22.

\* \* \*

Dr. Ray T. Parmley, Wichita, recently became a diplomate of the American Board of Anesthesiology.

\* \* \*

Dr. V. G. Henry, of the Axtell Clinic, Newton, has been granted leave to accept a fellowship in the department of anesthesiology at the Lahey Clinic, Boston.

\* \* \*

Dr. Robert E. Stowell, director of cancer research at the University of Kansas School of Medicine, is one of 10 American scientists attending the Fifth International Cancer Congress in Paris this month. He will present a paper on his work at the Medical Center.

\* \* \*

Dr. George I. Thacher, Waterville, was re-elected to his 16th term as president of the Kansas State Board of Health last month. Dr. R. T. Nichols, Hiawatha, was re-elected vice president, and Dr. F. C. Beelman, Topeka, executive officer and secretary.

\* \* \*

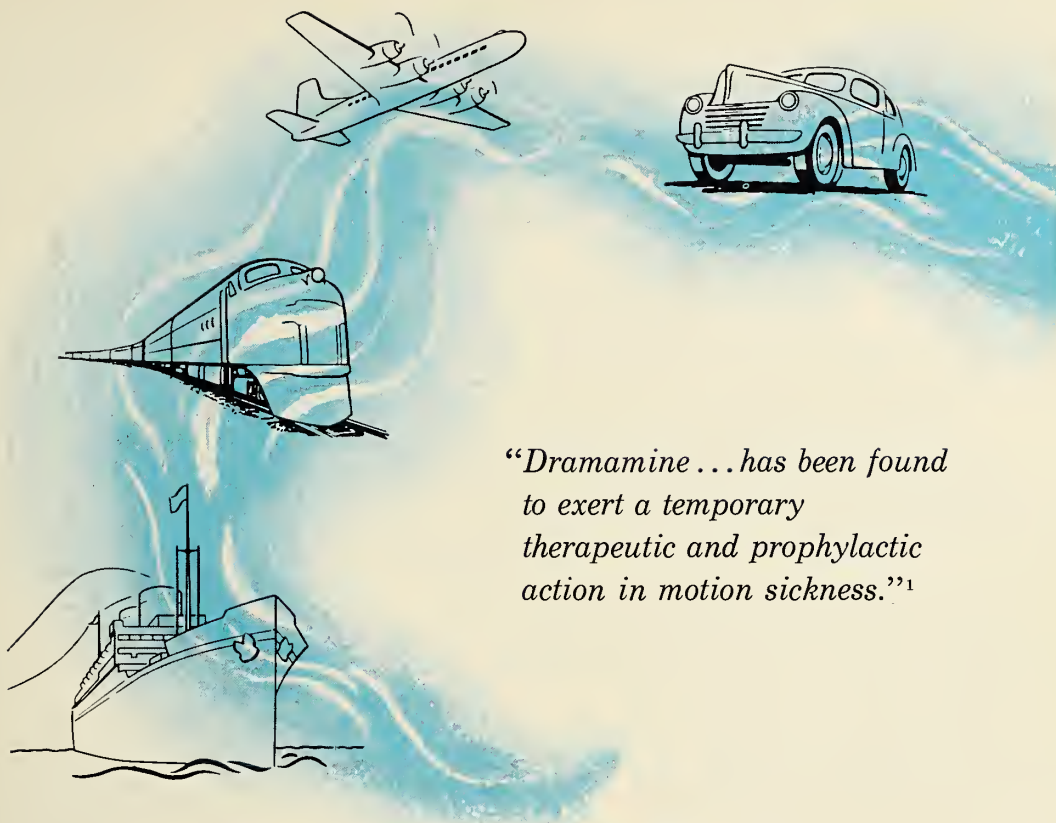
Dr. William E. Grove of the Axtell Clinic, Newton, has been certified as a diplomate of the American Board of Surgery after recent examinations in New Orleans.

\* \* \*

Dr. L. A. Donnell, Wichita, has filed as a Democratic candidate for the Fourth District Congressional seat now held by Ed Rees, Emporia.

\* \* \*

Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, has been appointed a member of the Special Medical Advisory Group to assist the Administrator of Veterans Affairs and the chief medical director of the V.A.



*"Dramamine...has been found to exert a temporary therapeutic and prophylactic action in motion sickness."<sup>1</sup>*

## Dramamine

for the Prevention  
or Treatment of  
Motion Sickness



**U**nusually satisfactory results have been obtained with Dramamine\* (brand of dimenhydrinate) as a prophylactic or active therapeutic agent for the relief of nausea, vomiting or dizziness, which many individuals experience in travelling by ship, airplane, train and other vehicles.

1. Council on Pharmacy & Chemistry: New and Non-official Remedies, 1950, Philadelphia, J. B. Lippincott Co., 1950, p. 460.

\*Trademark of G. D. Searle & Co., Chicago 80, Ill.

**SEARLE**

RESEARCH IN THE SERVICE OF MEDICINE



Dr. George Armitage, Hutchinson, has moved to Osceola, Iowa, to establish a practice there.

\* \* \*

Dr. P. G. Miller, Anthony, is preparing to retire from practice because of poor health.

\* \* \*

Dr. Donald L. Rose, of the University of Kansas Medical Center, has been appointed a consultant on education to the Council on Medical Education and Hospitals of the A.M.A. and has also accepted an appointment as a consultant in physical medicine to the National Foundation for Infantile Paralysis.

\* \* \*

Dr. O. W. Davidson, Kansas City, gave the address at commencement exercises at the Boys' Industrial School, Topeka, on June 2.

\* \* \*

A new building is being constructed in Junction City for offices of Dr. F. W. O'Donnell, Dr. A. E. O'Donnell, Dr. Harry O'Donnell and Dr. Herbert Bunker.

\* \* \*

Dr. Alfred Horejsi, Ellsworth, spent the month of June in Chicago taking graduate work at the Cook County Hospital.

\* \* \*

Dr. G. A. Westfall, Sr., was recently honored by the staff of the Hertzler Clinic, Halstead, on the completion of 20 years service at the clinic.

\* \* \*

Dr. C. B. Harris, Sr., Garnett, received a Masonic pin recently in recognition of 50 years membership.

\* \* \*

Dr. O. C. Lowe, Paola, announces that Dr. Glen Martin is now associated with him in practice. Dr. Martin was graduated from the University of Kansas School of Medicine and has just completed his internship at St. Francis Hospital, Wichita.

\* \* \*

Dr. C. H. Benage, Pittsburg, addressed the Business and Professional Women's Club of that city recently on the subject of health insurance.

\* \* \*

Dr. J. H. McNickle, Ashland, was named president of the Chamber of Commerce of that city at a recent meeting.

\* \* \*

Dr. D. B. McKee, Pittsburg, was guest speaker at a meeting held at Mt. Carmel Hospital June 2. Members of the Junior Chamber of Commerce and the Optimist Club were guests. Dr. McKee spoke on "The Hospital and the Community."

\* \* \*

Dr. Ray Busenbark has resigned as coroner of Wyandotte County and Dr. Fred C. Young is now serving as deputy coroner.

Dr. T. G. Duckett, Hiawatha, has announced that Dr. Arthur L. Nichols is now associated with him in practice. Dr. Nichols was graduated from the University of Kansas School of Medicine in 1943 and for the past three years has been serving as a medical officer in the Navy in the Pacific theater.

\* \* \*

Dr. O. W. Davidson has been named vice chairman of the Committee on Public Health and Welfare of the Kansas City Chamber of Commerce.

\* \* \*

Dr. Fred Brenneman, Hesston, announces that his brother, Dr. Paul Brenneman, is now associated with him in practice, moving to Kansas from Trevo, Pennsylvania.

\* \* \*

Six physicians in Junction City will occupy new offices in the fall when a building now under construction is completed. The six are: Dr. W. A. Carr, Dr. W. A. Smiley, Dr. Robert M. Carr, Dr. Ed Smiley, Dr. Leslie Brethour and Dr. W. A. Smiley, Jr.

\* \* \*

Dr. A. N. Gray addressed the Burlington Rotary Club at a recent meeting on the subject of child welfare.

\* \* \*

Dr. A. T. Steegman, professor of neurology at the University of Kansas Medical Center, read a paper on "Anterior Spinal Artery Syndrome" at the meeting of the American Academy of Neurology in Cincinnati in April.

### Externship Program at State Hospital

Fifteen medical students from seven schools are participating in a new externship program at Topeka State Hospital this summer as a part of the hospital's training program which now includes psychiatric residency, psychological internship, psychiatric social work, field placement and psychiatric aide programs.

The extern program has two purposes: (1) to help cope with a large backlog of medical and surgical problems, and (2) to interest medical students in psychiatry and in the possibilities for further training at the hospital. The externs serve as clinical clerks, do laboratory work and give medical examinations under supervision. They attend clinical and teaching conferences at Winter VA Hospital and also in other Topeka hospitals. Dr. Robert J. Kinney, chief of the department of internal medicine, directs the program.

Medical schools represented are Emory University, University of Georgia, University of Iowa, University of Nebraska, University of Rochester, University of California at Los Angeles, and Washington University.

Second Annual Meeting

# SOUTHWESTERN SURGICAL CONGRESS

DENVER, COLORADO

September 25, 26, 27

## TEN DISTINGUISHED GUEST SPEAKERS

Willis E. Brown, M. D. ....	Little Rock
R. W. Buxton, M. D. ....	Ann Arbor
Ferdinand C. Helwig, M. D. ....	Kansas City, Kansas
Arnold S. Jackson, M. D. ....	Madison
Thomas J. Kinsella, M. D. ....	Minneapolis
Julian A. Moore, M. D. ....	Asheville
Carl A. Moyer, M. D. ....	Dallas
James D. Rives, M. D. ....	New Orleans
Richard W. TeLinde, M. D. ....	Baltimore
Harwell Wilson, M. D. ....	Memphis

## ROUND-TABLE DISCUSSIONS

Entertainment Includes:

Mountain Trips to  
Mount Evans, Red Rocks Theatre, and Lookout Mountain

Special Entertainment for the Ladies

Annual Banquet Tuesday Evening

# SOUTHWESTERN SURGICAL CONGRESS

632 Republic Building

Denver 2, Colorado



## COUNTY SOCIETIES

The Tri-County Medical Society, composed of Cowley, Sumner and Kay Counties, held a meeting in Ponca City June 15. Dr. Robert McClure, Toronto, Canada, a member of the Royal College of Surgeons, spoke on "Present Trends in Ulcer Surgery," and also discussed "China's Challenge to Western Culture."

\* \* \*

Dr. E. L. Gann, Emporia, was speaker at a meeting of the Lyon County Society held June 6. He spoke on "Deep Neck Infections."

\* \* \*

Dr. and Mrs. C. E. Henneberger, Dr. and Mrs. E. T. Gertson and Dr. and Mrs. F. E. Bishop entertained members of the Northwest Kansas Medical Society and Auxiliary at a buffet supper at the Ranch House, Atwood, May 7.

\* \* \*

The Bourbon County Society was host to the Southeast Kansas Medical Society at a dinner at the Fort Scott Country Club, June 6. Dr. Charles C. Dennie of Kansas City, president of the American Dermatological Society, was guest speaker.

\* \* \*

A meeting of the Cowley County Society was held at Winfield June 9. Three resolutions were adopted, endorsement of the Cowley County Joint Board of Health, recommendation of a standard food and restaurant ordinance, and endorsement of a plan of milk sanitation for the county.

### Drugs Available for Seasickness

Benadryl, hyoscine and artane have been found to be as effective as dramamine in prevention of seasickness by air force medical researchers, according to recent information from the Department of Defense. Experiments were conducted on 1,000 volunteer subjects on a round-trip voyage from New York to Bremerhaven, Germany, aboard the Army transport General Maurice Rose, a 16,000-ton ship.

The experiments were conducted to test several drugs which had been proposed as useful in prevention of motion sickness and to determine if the anti-histaminic properties in some of the drugs made them valuable as motion sickness preventives. The researchers reported that the preventive and therapeutic actions in motion sickness are not related to the anti-histaminic qualities. They believe that a combination of the drugs, retaining the protective qualities and eliminating undesirable reactions, will be found.

## DEATH NOTICES

**CLAUDE E. McCARTY, M.D.**

Dr. C. E. McCarty, 77, an active member of the Ford County Medical Society, died at a Dodge City hospital May 24. He was the first white child born in Dodge City, in 1873, and spent his entire life there except for attending Rush Medical College, Chicago, where he received his medical degree in 1897. He then joined his father in practice. His specialty was surgery, and he was a fellow of the American College of Surgeons.

\* \* \*

**CLEMENT E. GRIGSBY, M.D.**

Dr. C. E. Grigsby, 81, died at his home in Coffeyville May 29. He was graduated from Ensworth Medical College, St. Joseph, Missouri, in 1893 and received his Kansas license in 1901. He opened an office at Spivey but a short time later became physician at the Kansas State Penitentiary at Lansing, where he remained eight years. He then began practice in Coffeyville, continuing until the day of his death. He was an active member of the Montgomery County Society.

\* \* \*

**CHARLES MAXWELL JENNEY, M.D.**

Dr. C. M. Jenney, 71, died suddenly June 13 at his home in Salina. He was an active member of the Saline County Society. Born in 1879, he was graduated from the Homeopathic Medical School, Chicago, in 1904, and received his Kansas license the same year. He specialized in pediatrics.

\* \* \*

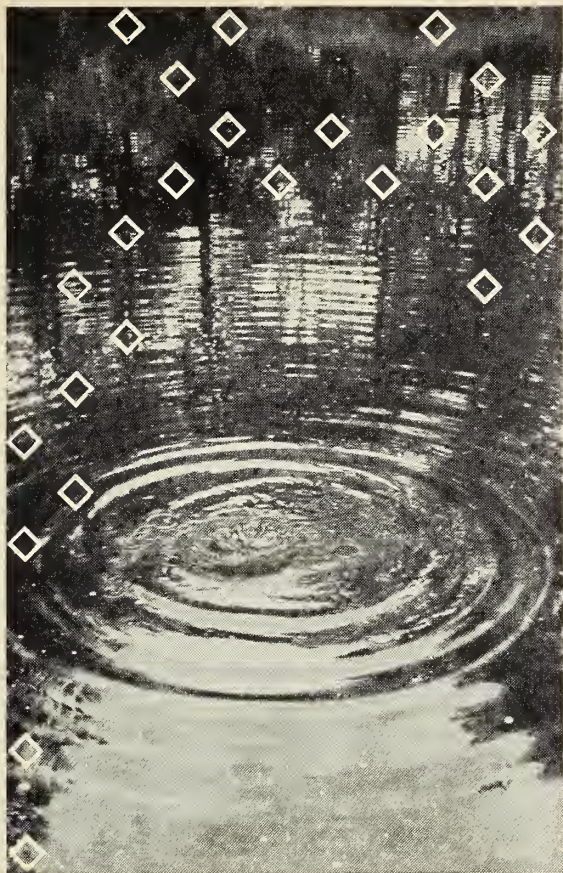
**HOMER EVERETT MARKHAM, M.D.**

Dr. H. E. Markham, 83, a member of the Franklin County Society, died June 19 at his home at Ottawa after a year's illness. He was graduated from Rush Medical College, Chicago, in 1892, and had practiced in Ottawa since 1912.

\* \* \*

**CARL FERDINAND NELSON, M.D.**

Dr. C. F. Nelson, 68, a member of the Douglas County Society, died at Watkins Memorial Hospital, Lawrence, June 4. A native of Sweden, he came to this country as a child and came to Kansas in 1913 to teach at the University of Kansas. In 1916 he took leave to earn his medical degree at Rush Medical College, Chicago, after which he became chairman of the department of bio-chemistry at Kansas University. He retained that post until 1947, when he retired, although he continued to teach.



# SURFACE TENSION

The carefully adjusted, low surface tension of Koromex Jelly and Cream, assures even spreading over the entire vaginal mucosa. This results in greater penetration, increased barrier action and faster spermicidal time

ACTIVE INGREDIENTS: BORIC ACID 2.0% OXYQUINOLIN BENZOATE 0.02% AND PHENYLMERCURIC ACETATE 0.02% IN SUITABLE JELLY OR CREAM BASES

## KOROMEX

®

A CHOICE OF PHYSICIANS



HOLLAND-RANTOS COMPANY, INC. • 145 HUDSON STREET, NEW YORK 13, N. Y.

MERLE L. YOUNGS

P R E S I D E N T



## ABSTRACTS FROM CURRENT LITERATURE

### DHE-45 in Herpes Zoster

*DHE-45 for Pain in Herpes Zoster.* By Frank C. Combes, Orlando Canizares and Socorro Simmango, *J. Invest. Dermat.*, 14:53-56, 1950.

An ergot derivative, dehydroergotamine methane-sulfonate, called DHE-45, appears to be useful in the control of pain associated with herpes zoster.

In 30 out of 40 cases treated at Bellevue Hospital, New York City, the results were classified as satisfactory or excellent. Pain was relieved almost completely after each injection for eight hours to three days in 17 patients.

The drug is administered intravenously or intramuscularly. If an initial dose of 1 cc. is ineffective, 2 or 3 cc. is given.

Side effects are few. Some patients may have a slight fall in blood pressure immediately after the injection, transient headache, or bradycardia.

Aside from analgesic action, which is effective at any stage of the disease, DHE-45 does not influence the course of herpes zoster.—E. L. G.

\* \* \*

### Subacute Thyroiditis

*Subacute Thyroiditis.* By George Crile, Jr., and Eugene W. Rumsey, *J.A.M.A.*, 142:458-462, Feb. 18, 1950.

Subacute thyroiditis may be defined as an acute or chronic, self limited inflammation of the thyroid gland, probably initiated by a virus infection, and prolonged by a granulomatous reaction to the displaced or perverted colloid.

The disease may be divided into the acute and chronic phase, the acute phase being manifested by local signs of fever, sore throat, severe pain on swallowing and exquisite tenderness of the affected portion of the thyroid gland, generally recognized as an acute non suppurative thyroiditis. The chronic phase was less severe, but a protraction of the same symptom complex, and was usually called granulomatous or giant cell thyroiditis. Other types of thyroiditis such as struma lymphomatosa (Hashimoto) and Riedel's struma are distinct entities unrelated to subacute thyroiditis, and not considered in this discussion.

Subacute thyroiditis has been noted after infections of the upper respiratory tract, measles, malaria, and scarlet fever, and hence the possibility of a filtrable virus has been suggested as an etiologic factor. The chronic phase may be the result of a foreign body reaction to colloid which escapes into tissue spaces when the cells lining the follicles are damaged by the virus infection.

The disease has been considered as relatively in-

frequent; however, since 1946 it has become more frequently recognized. Giordanengo in 1938 stated that only 54 cases had been reported since 1904. However, at the Cleveland Clinic, 38 cases of subacute thyroiditis had been observed in the years 1946 through 1948, as compared with only 27 patients in the 10-year period 1936 through 1945. The actual increase is probably due to better recognition of the disease. The age is usually between 30 to 50 and men are predominantly affected in a ratio of six to one.

Local symptoms: a sore throat, severe pain on swallowing, and exquisite tenderness of the thyroid with pain radiating behind the ear, occiput, face or jaw; may be frequently confused with infections of teeth, tonsils, or ear, all of which have been mistakenly treated in the presence of obscure thyroiditis without relief until treatment for thyroiditis was instituted, namely, roentgen radiation.

Systemic manifestation: fatigue, weakness and lassitude are prominent, with temperatures varying from 101 to 104 in the acute phase, and prolonged low grade fever for weeks or even months in the chronic phase. The symptoms of hyperthyroidism such as nervousness, tremor, weakness, excessive perspiration, heat intolerance, and palpitation were noted in about one-sixth of the cases. However, the basal metabolism is not diagnostic, varying from plus eight to 28.

On physical examination the thyroid gland is firm, and usually diffusely enlarged and tender. The entire gland may not be involved at one time; however, a progressive spread has been noted, giving this phenomenon the name "creeping or migratory thyroiditis." The gland is usually enlarged two-three times its normal size, and the amount of tenderness depends upon the stage of the disease.

Diagnosis: depends on the observation of a firm thyroid gland, which may be confused with pharyngitis, otitis, dental infection, influenza or fever of unknown origin. The chronic form may simulate globus hystericus, adenoma of the thyroid, carcinoma of the thyroid, hyperthyroidism or chronic nervous exhaustion. It is usually associated with a high sedimentation rate and low uptake of radioactive iodine. In doubtful cases, satisfactory biopsy specimens of the thyroid can be obtained by the use of Vim-Silverman liver-biopsy needle.

Pathology: the inflammatory reaction usually involves the entire gland, presenting a thyroid two-three times uniform enlargement, with a thin glistening capsule, and a cut surface abnormally white and avascular; turnip-like consistency. This differs from Reidel's struma in so far that in subacute thyroiditis the inflammatory process is limited to the thyroid, whereas in Reidel's struma there is

*Your* **LABORATORIES**  
*Our* **RESPONSIBILITY**

CLINICAL PATHOLOGY  
PATHOLOGIC ANATOMY

**DUNCAN LABORATORIES**

*Established 1924*

909 Argyle Bldg. **KANSAS CITY 6, MO.**

230 Frisco Bldg. **JOPLIN, MISSOURI**

RALPH EMERSON DUNCAN, M.D.

In addition to diagnostic laboratory services, chemically accurate and clinically tested reagents, solutions, stains and culture media are available for immediate delivery.



extensive involvement of all the surrounding structures.

Microscopically, the picture is primarily that of a foreign body reaction—fibrosis, degeneration, and exudation, the focal accumulation of polymorphonuclear leukocytes forming microabscess, decreasing the acini in size and number, with mostly cuboidal epithelial cells, and various stages of disintegration. Scattered large giant cells, together with numerous focal areas of granulomatous reaction, have been responsible for the terms pseudo-tuberculous, granulomatous thyroiditis and giant cell thyroiditis.

Treatment: until recently the classic treatment of the acute stage has consisted of bed rest, sedatives and ice packs to the thyroid until the acute symptoms subsided. Iodine and chemotherapy antibiotics have proved no more effective than the conventional treatment. King and Rosellini have reported favorably on the use of thiouracil. Thyroidectomy has been advised in the chronic phase of the disease. However, for the past 10 years roentgen therapy has been the standard treatment of subacute thyroiditis at the Cleveland Clinic, and its results have been consistently good. The average dose of 600 to 800 r was dramatically prompt and complete. Thyroidectomy is not necessary.—J. J. H.

\* \* \*

### Surgery of the Heart

*Surgery of the Heart.* By Claude S. Beck, Post. Med., 6:132-135, Aug., 1949.

It is recognized that anoxia of even a small area of myocardium may destroy the coordinated heart beat and result in ventricular fibrillation. Experimental work in dogs designed to supply extra blood to the myocardium by means of grafting adjacent tissues to the surface of the heart resulted in significant vascular anastomoses in only a small percentage of experiments.

Somewhat better results were obtained by producing inflammation on the surface of the heart designed to stimulate the formation of cross-channels between coronary arteries. Thirty-seven patients with severe coronary disease were operated upon by these methods with beneficial results.

The next development was to put red blood into the coronary sinus. This has been done by two methods: (1) by implantation of the divided proximal end of the left common carotid artery into the side of the sinus; (2) by placing a free graft of vein between the aorta and the coronary sinus.

Dr. Beck states that in spite of the technical difficulty, they have obtained almost routine success with these operations in experimental animals. He found, "that after arterial blood was delivered to the coronary sinus it was possible to ligate a major coronary artery with little or no mortality and with

little or no destruction of heart muscle. It may be difficult at this time to appreciate the significance of this observation." Dr. Beck feels that within the immediate future he will be ready to proceed with this type of surgery upon human patients suffering with coronary artery disease. He is convinced the operation will be highly beneficial.—T. P. B.

\* \* \*

### Oral Feeding in Infantile Diarrhea

*Place of Oral Feeding in Infantile Diarrhea.* By A. W. Chung and L. E. Holt, Jr., Ped. 5-3: 421-424, Mar., 1950.

About one year ago A. W. Chung presented evidence indicating that the customary practice of treating infantile diarrhea by a period of oral starvation followed by gradual resumption of full oral feeding was not a sound one. It was shown (1) that the intolerant intestine absorbed more food when more was given, and (2) recovery of tolerance was not delayed by oral feeding.

Darrow and his collaborators reaffirm the time honored view that the resumption of oral feeding before intestinal tolerance is regained is dangerous and precipitating dehydration and acidosis.

The authors believe a relapse may be defined as a loss of intestinal tolerance and that one should not conclude that a relapse exists merely because manifestations of diarrhea increase with an increased oral intake, for this does not mean that tolerance is failing, merely that it is being more rigorously tested. If the oral feedings had induced relapse or delayed recovery of tolerance, the duration of the disease in the oral fed group should have been greater, which was not found to be the case. If anything, the duration was shorter in the cases receiving full oral feedings throughout. Most of the diarrheal deaths occur in the severely malnourished infants.—D. R. D.

\* \* \*

### Paralysis Agitans

*Treatment of Paralysis Agitans with Dihydro-beta-erythroidine.* By Sidney Shapiro and A. B. Baker, Am. Jnl. Med., 8:2, 153-159, Feb., 1950.

These authors state that treatment of patients with paralysis agitans is a combination of intelligent use of drugs, exercise, and emotional readjustment. In general, drugs are more effective in treating the muscular rigidity of the disease, rather than the tremor. Principal drugs used to date are the atropine derivatives, and include hyoscine hydrobromide, rabellon, vinobel, and bellabulgar.

The drug to be reported on, dihydro-beta-erythroidine, is curare-like in its action, and is derived from a genus of trees and shrubs widely distributed in the tropics and subtropics. Beta-erythroidine was first used clinically in 1935 in treatment of spastic

# THE Lattimore-Fink Laboratories

TOPEKA, KANSAS

J. L. Lattimore, A.B., M.D., *Director*  
A. A. Fink, M.D., *Pathologist*  
A. C. Keith, B.S., *Chemist*  
H. C. Ebendorf, M.T., *Serologist*  
L. A. Hull, A.B., *Bacteriologist*

PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY,  
HEMATOLOGY AND PARASITOLOGY

*Containers furnished upon request.*

## OFFICES:

Topeka, Kan.

El Dorado, Kan.

Sedalia, Mo.

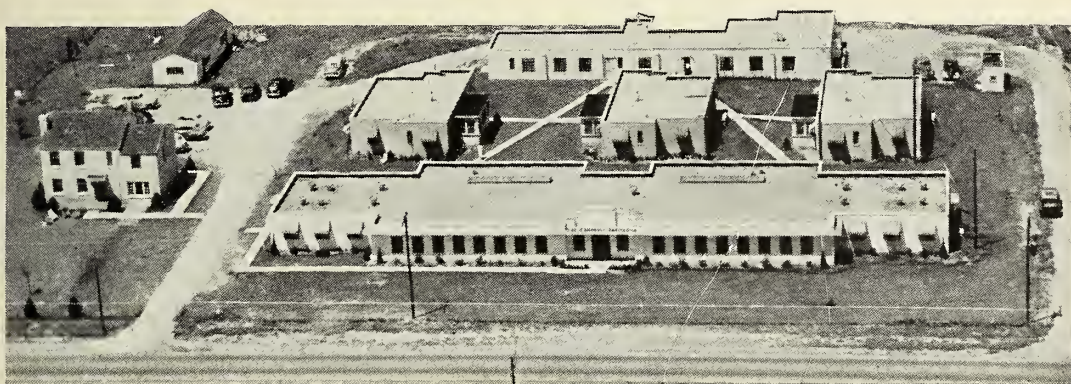
McAlester, Okla.

## RESEARCH FOUNDATION SANITARIUM

Northeast 23rd and Spencer Road

Phone 54-8405

OKLAHOMA CITY, OKLAHOMA



ESTABLISHED IN 1939

for treatment of

NERVOUS AND MENTAL DISORDERS

Coyne H. Campbell, M.D., F.A.C.P., F.A.A.P.

Samuel A. Capehart, M.D.

Harold G. Sleeper, M.D.

Irene Jennings, R.N., Supervisor

J. H. Barthold, Business Manager



dystonia. It was subsequently used in a large series of patients with spasticity of both pyramidal and extrapyramidal nature. The dihydro compound is more potent and its effect is longer lasting. When administered intravenously, the effect of the drug is indistinguishable from curare.

A series of 24 patients with long-standing paralysis agitans, who had received previously various atropine derivatives, were treated with dihydro-beta-erythroidine. The criteria for progress consisted of evaluation of efficiency in performing various ordinary daily activities.

Three of the 24 patients received the drug without added therapy and derived no benefit.

Five of the 24 patients were started on dihydro-beta-erythroidine, and atropine derivatives were added after intervals of 20 to 118 days. Two of these patients derived striking improvement from the combination.

The remaining 16 patients were started at once on the dihydro-beta-erythroidine plus one of the atropine derivatives. Ten of these patients noted striking benefit, with recrudescence on withdrawing the dihydro-beta-erythroidine.

Oculogyric crises were not affected by the drug. It acted almost exclusively on the muscular rigidity rather than the tremor.

This program of treatment was finally decided upon: give one of the atropine derivatives until maximum benefit has been obtained. Add dihydro-beta-erythroidine in dosage of 50 mg. four times a day. Maximum benefit from this addition can be expected within a month.

The drug is relatively non-toxic, producing occasionally only transitory gastrointestinal disturbances, blurring of vision, and dizziness.—E. J. R.

\* \* \*

### Aortic Embolectomy

*Aortic Embolectomy (Successful Removal of Saddle Embolus by Transabdominal Route).* By Harwell Wilson, J.A.M.A., 141: 389-390, Oct. 8, 1949.

The author presents a case of saddle embolus at the bifurcation of the abdominal aorta. This lesion is almost uniformly fatal unless surgery is employed. He reports that, in 1948, 21 cases of successful aortic embolectomy were on record. In the present case the onset of symptoms was abrupt. Both lower extremities became numb and cool and pain developed in both hips with sciatic radiation.

Five hours after the onset of symptoms a left paramedian incision was made. The abdominal viscera were retracted and the posterior parietal peritoneum opened over the bifurcation of the aorta which was constricted about a clot in this area. The embolus extended for a short distance into each iliac artery. Soft rubber tourniquets, held by forceps, were placed about the aorta and its two main

branches and a longitudinal incision made over the lower aorta and right iliac artery. The embolus was extracted and the wound closed with continuous and interrupted silk everting sutures.

The source of the embolus was not determined. Usually there is some cardiac disease, which was not apparent in this case.

Post-operative phlebo-thrombosis developed but the patient recovered after one pulmonary embolus and bilateral superficial femoral ligation.—T. P. B.

### New Section on Cardiovascular Advances

A new section reviewing the latest advances in the cardiovascular field and pointing out their practical application will be added to *Circulation*, the Journal of the American Heart Association, this fall. The section will be edited by Dr. Herrman L. Blumgart, professor of medicine at Harvard Medical School.

Contributions for the section will be prepared by recognized authorities and will range from 4,000 to 8,000 words, representing critical judgments of the current status of the subjects handled.

### State Board Elects Officers

Dr. J. D. Colt, Manhattan, was elected president of the Kansas State Board of Medical Registration and Examination at a meeting held at Kansas City June 7, at the time examinations were given to 123 applicants for licenses to practice in Kansas. Dr. H. E. Haskins, Kingman, was named vice president, and Dr. O. W. Davidson, Kansas City, was chosen as secretary.

Government, like science, should be wholly and unselfishly dedicated to the betterment of humanity and the greater perfection of our liberties. These objectives can be achieved only in a nation in which men are free to govern themselves, free to create, free to think, free to manufacture ever better and cheaper goods, free to keep the proceeds of their genius so they may continue to spread its benefits ever wider for the benefit of all the people.

In the last 50 years free men and women, working in laboratories, hospitals, universities and at the bedside of patients, have added 20 years to the life span of the average American. In the last 35 years alone they have cut infant mortality by 75 per cent. . . .

All this has been done, let me emphasize, without socialized medicine. . . . The incredible achievements in health to which I have just referred have been made possible by the enterprise system, many of them in the pursuit of profit.—Address given by Governor Thomas E. Dewey at the dedication of the Sterling-Winthrop Research Institute at Rensselaer, New York, May 17, 1950.

### Cook County Graduate School of Medicine ANNOUNCES CONTINUOUS COURSES

**SURGERY**—Intensive Course in Surgical Technic, Two Weeks, starting July 24, August 21, September 25.  
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting July 10, August 7, September 11.  
Personal Course in General Surgery, Two Weeks, starting September 25.

Surgery of Colon & Rectum, One Week, starting September 11.

Esophageal Surgery, One Week, starting October 16.

Breast & Thyroid Surgery, One Week, starting October 2.

Thoracic Surgery, One Week, starting October 9.

Gallbladder Surgery, Ten Hours, starting October 23.

Fractures & Traumatic Surgery, Two Weeks, starting October 9.

Basic Principles in General Surgery, Two Weeks, starting September 11.

**GYNECOLOGY**—Intensive Course, Two Weeks, starting September 25.

Vaginal Approach to Pelvic Surgery, One Week, starting September 18.

**OBSTETRICS**—Intensive Course, Two Weeks, starting September 11.

**MEDICINE**—Intensive General Course, Two Weeks, starting October 2.

Gastro-enterology, Two Weeks, starting October 16.

Gastroscopy, Two Weeks, starting July 17, September 25.

**DERMATOLOGY**—Formal Course, Two Weeks, starting October 16. Informal Clinical Course every two weeks.

**UROLOGY**—Intensive Course, Two Weeks, starting September 25.

Cystoscopy, Ten Day Practical Course, every two weeks.

**GENERAL, INTENSIVE AND SPECIAL COURSES IN  
ALL BRANCHES OF MEDICINE, SURGERY  
AND THE SPECIALTIES**

**TEACHING FACULTY—ATTENDING STAFF OF  
COOK COUNTY HOSPITAL**

Address: Registrar, 427 S. Honore St., Chicago 12, Ill.



### THE BROWN SCHOOL

Four distinct units. Tiny Tots through the Teens. Ranch for older boys. Special attention given to educational and emotional difficulties. Speech, Music, Arts and Crafts. A staff of 12 teachers. Full time Psychologist. Under the daily supervision of a Certified Psychiatrist. Registered Nurses. Private swimming pool, fireproof building. View book. Approved by State Division of Special Education.

BERT P. BROWN, DIRECTOR  
PAUL L. WHITE, M.D., F.A.P.A.,  
MEDICAL DIRECTOR  
P. O. Box 4008, Austin, Texas

Medical and surgical supplies for Kansas doctors of Medicine and Hospitals

## Munns Medical Supply Co., Inc.

512 Kansas Avenue  
Topeka, Kansas

456 New Brotherhood Building  
Kansas City, Kans.



### PHARMACEUTICALS

A complete line of laboratory controlled ethical pharmaceuticals. Chemists to the Medical Profession since 1903. KA-7-50

THE ZEMMER COMPANY, Pittsburgh 13, Pennsylvania

#### CLASSIFIED ADVERTISEMENTS

**FOR SALE**—Cardiotron, microscope and accessories, electric centrifuge, small incubator, x-ray machine and all accessories, new cystoscope, short wave diathermy, ultra violet lamp. Will sell cheap. Write the Journal 27-50.

**ENT.** Older man in Kansas City, Missouri, wants to take more time off; retire later. Share space, salary, salary-per cent or other suitable arrangements. Is associated with younger ophthalmologist. Complete details on request. Write the Journal 28-50.

**FOR SALE**—Large practice free to purchaser of modern equipment of physician retiring because of coronary attack. Office rent \$40 per month, five air-conditioned rooms. G.E. x-ray. Terms to right man. Write the Journal 29-50.

**WANTED TO BUY.** Eye instruments, eye speculum, fixation forceps, ear speculum, nasal speculum, small ring curette, tongue depressors. Write the Journal 30-50.

**DOCTOR WANTED** for rural community. Large thickly populated area, 14 miles to nearest doctor, 16 miles to nearest hospital, 20 miles northeast of Wichita. Write the Journal 31-50.

**FOR SALE**—F. A. Hardy and Co. 1904 ophthalmometer and adjustable stand, Hobart metal cabinet with 27 small drawers and wooden base, treatment chair, examination chair, table cushion, urinary test cabinet, sterilizer, small oak desk and swivel chair and cushion, heat lamp, electric window cooler, instrument table, etc. Write the Journal 32-50.



### New Format for List of Medical Literature

A new format for the Army Medical Library's Current List of Medical Literature has been announced by Major General R. W. Bliss, Army Surgeon General. Beginning with the July 1950 issue, the publication will be enlarged and published in two parts, a register, listing all contributions, and an index, listing multiple author and subject headings in dictionary form. The monthly indexes will cumulate into annual volumes comprising entries for approximately 80,000 articles.

The committee preparing the publication is being guided and assisted by scientific research in the field of medical indexing performed at Johns Hopkins University. Coordination of effort with other agencies engaged in similar programs, introduction of modern techniques, and research to discover pertinent data bearing on the problem, should provide medical scientists throughout the world with better bibliographical tools to medical literature than hitherto have been available.

### Board Examinations Announced

The next scheduled examination (Part I) of the American Board of Obstetrics and Gynecology will be held in various cities of the United States and Canada on Friday, February 2, 1951. Applications may be made until November 5, 1950. Application forms and bulletins, incorporating changes made recently, may be obtained from Paul Titus, M.D., Secretary, American Board of Obstetrics and Gynecology, 1015 Highland Building, Pittsburgh 6, Pennsylvania.

### Radio Series Available

A new series of medical radio transcriptions, available to county medical societies which will make local arrangements for broadcasting, has been prepared by the Bureau of Health Education of the American Medical Association. Complete information on the series may be obtained from the Bureau.

While each program deals largely with miscellaneous questions and answers, there is a central theme for each, including the following topics: headache, insomnia, feet, weight, rheumatism, relaxation, teeth, posture, accidents, colds, exercise, vision and hearing aids, and skin. The group makes up Series 24 in the transcription library of the Bureau.

### Life Insurance Fund for Heart Research

A 1950 total of \$670,000 has been allotted by the Life Insurance Medical Research Fund for the study of heart disease and the training of research scientists, according to recent announcements from the Institute of Life Insurance. The 1950 awards

bring to \$3,200,000 the total amount given by the Fund since it was organized late in 1945.

Because diseases of the heart and arteries are by far the commonest cause of death in America, the Fund has so far restricted its activities to this field, particularly the study of high blood pressure, hardening of the arteries and rheumatic fever. Financial support for the organization comes from 147 life insurance companies.

### Plastic Surgery Award

The Foundation of the American Society of Plastic and Reconstructive Surgery offers as its 1950 award a first prize of \$300 and a second prize of \$200 for essays on some original unpublished subject in plastic surgery. Competition is limited to residents in plastic surgery or to practicing plastic surgeons who have been in such practice for not more than five years. Details of the award may be secured from Dr. Clarence R. Straatsma, 66 East 79th Street, New York, New York.

Malaria, smallpox, tuberculosis, venereal disease, diphtheria, many others, all could be gotten rid of—from the whole world, without any further knowledge or research, if we had mental health and social health in the people of the world, if enough people in enough places could think in factual terms and had good mental health. Nothing keeps the diseases alive except ignorance and short-sighted self-interest. Long-sightedness would get rid of those things quickly.—*Brock Chisholm, M.D., Mental Hygiene, July, 1948.*

The modern approach to health increasingly stresses personal responsibility, and to this end health education should include a knowledge of germs and how they are spread, of physiology and how to apply it, and of biology in its importance to the welfare of man.—*C. Fraser Brockington, M.D., The Lancet, October 22, 1949.*

## ANNOUNCEMENTS

- July 17-18—Fourth Annual Rocky Mountain Cancer Conference, Denver, Colorado. No Registration Fee. Write Cancer Conference, 519 - 17th Street, Denver, for Hotel Reservations.
- August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.
- October 12-14—Course in Postgraduate Gastroenterology, National Gastroenterological Association, Hotel Statler, New York City. Full information from Association, Dept. GSJ, 1819 Broadway, New York 23, New York.
- October 23-27—36th Clinical Congress, American College of Surgeons, Boston, Massachusetts. Headquarters at Statler and Copley Plaza. Full information from A.C.S., 40 East Erie Street, Chicago 11, Illinois.
- April 9-13—32nd Annual Session, American College of Physicians. St. Louis, Missouri. Full information from A.C.P., 4200 Pine Street, Philadelphia 4, Pennsylvania.
- May 14-17—92nd ANNUAL SESSION, KANSAS MEDICAL SOCIETY, TOPEKA, KANSAS.

THE  
**MEDICAL PROTECTIVE  
 COMPANY**  
 FORT WAYNE, INDIANA

**Professional Protection  
 Exclusively  
 since 1899**

TOPEKA Office:  
 J. E. McCurdy, Rep.  
 1160 College Avenue,  
 Telephone 2-3027

## OUR 35th YEAR

## AN INSTITUTION OF STRENGTH AND CHARACTER

You modernize constantly the equipment in your office to keep abreast of the times. You have an opportunity to modernize your Collection Department through Midland Service, based on facts—not opinions. It is available to you upon request, and with it goes the assurance it will prove highly profitable to you.

**MIDLAND**

*Finance Corporation*

20 W. 9th St. Bldg.

Kansas City, Mo.



**More and more  
 doctors are prescribing  
 Daricraft Homogenized  
 Evaporated Milk  
 for babies . . . and for  
 convalescent diets**

**Always uniform in quality, safe, sterilized, high in food value and minerals. Contains 400 U. S. P. units Vitamin D per pint of Daricraft. Easily digested.**



**FOR CONVENIENCE  
 ECONOMY QUALITY**

**Daricraft  
 HOMOGENIZED  
 EVAPORATED  
 MILK**



**PRODUCERS CREAMERY CO., SPRINGFIELD, MO.**



## BOOK REVIEWS

*A Primer for Diabetic Patients, Ninth Edition.* By Russell M. Wilder. Published by W. B. Saunders Company, Philadelphia, 1950. 200 pages, 9 illustrations, 8 tables. Price \$2.25.

This latest edition, published four years after the last edition, of a popular book written for the patient and physician testifies to its acceptance and wide use. Dr. Wilder explains the necessity of this latest edition on the basis of a little more liberalness in dietary recommendations for patients using insulin and a little less rigidity in the control of glycosuria in diabetics taking insulin. However, the basic approach of fully instructing the diabetic about his disease and its management is rightfully maintained and the book shows little alteration as a whole.

It is clearly and simply written for the lay patient, although it does contain material useful to the family physician. This book is used as a text in the Diabetic School for patients at the Mayo Clinic and consequently contains questions for the patient to answer at the end of each chapter to insure his having grasped the essential points. All material written for the patient can be recommended without reservation.

In a chapter directed to the physician on the treatment of diabetics, acidosis and coma, Dr. Wilder's recommendation that the stomach be aspirated and lavaged with bicarbonate solution is not accepted by all authorities of diabetic management. The last 100 pages of the book are devoted to the diabetic diet and this material is directed primarily to the physician.

Although Dr. Wilder's attention to a weighed, quantitative diet is a worthy one, it is not often possible to apply with the average patient. Too often, the insistence on a weighed diet introduces such complexities and changes in routine for the patient as to make the difference between wholehearted cooperation with the doctor and little or no cooperation in controlling the diabetes. However, Dr. Wilder does list household measures in his recipes so that these will be of greater utility. The author also advises a greater proportion of fat in the diet than some other authorities now recommend.

There is a useful nomogram in the back of the book for calculating caloric requirements. The index is 13 pages long.

With the reservations noted above applying only to material written for the physician, this book can be fully recommended to family physicians and

their diabetic patients. It is a valuable educational manual for the patient and a helpful workbook for the doctor.—G.R.S.

### Squibb Provides "Video Medico"

An opportunity for Latin American surgeons and physicians to witness the latest demonstrations of surgical procedures by television is being provided this summer by E. R. Squibb and Sons under a project called "Video Medico." The programs will be presented at important medical meetings in five countries, Brazil, Argentina, Puerto Rico, Venezuela and Mexico.

Medical instruction by television has become an accepted procedure in this country, but physicians in Latin American countries have never before had an opportunity to see surgery by television. The same was true in Canada until last June, when the Squibb Company provided such presentations at the annual meeting of the Canadian Medical Association.

A little arithmetic convinces one that elaborate annual physical examinations involving complicated procedures and consuming much time of physicians are not the answer to early detection of conditions such as tuberculosis, cardio-vascular disease, cancer, syphilis, and diabetes. The cost is too great and there are not enough physicians.

The answer may lie in multi-phasic rapid screening conducted at the technician level. A number of such experimental programs are now being conducted. In only a few minutes, the person being examined will have a chest x-ray (which may reveal heart abnormalities or lung tumors as well as tuberculosis and certain other lung infections), and a blood specimen will be taken for determination of the blood sugar level and presence of syphilis antibodies. Perhaps other serologic tests will be made. Although physicians will be needed to interpret the tests, the tests themselves will be conducted by technicians.

Such a program will fail completely unless the medical profession is made to understand thoroughly the philosophy of the program, namely, that it does not take the place of the physician in making a diagnosis. In fact, no diagnosis will be made. Only suspected abnormalities will be screened out in this first procedure; the diagnosis will be made later in the physician's office and, it is hoped, at a stage when the physician may be more effective in administering treatment than would have been the case if the patient had waited until the development of full-fledged symptoms forced him to consult a physician.—James E. Perkins, M.D., *Bull. Nat. Tuberc. A., January, 1950.*

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

---

Volume LI

AUGUST, 1950

No. 8

---

## Fractures of the Femoral Shaft

Charles Rombold, M.D., H. O. Anderson, M.D., H. O. Marsh, M.D., and J. F. Lance, M.D.

Wichita, Kansas

The two aspects which make fractures of the femoral shaft an important problem are the economic and treatment factors.

From the economic aspect, fractures of the shaft of the femur are the most serious of all fractures. They are serious economically, not only because of the long period of hospitalization necessitated in their care, and the long subsequent course of rehabilitation, but also because of the probability of a permanent partial disability, with resultant decreased income. These factors are inherent in any fractured femur. A fractured femur means not only loss of immediate income for a year but also a drain on the patient's capital through months of hospitalization, and a probable decrease in earning power after healing has been completed. Totalling the loss of these three factors, loss of income during treatment, cost of treatment, and residual decrease of earning capacity, a fractured femur often results in bankruptcy of the patient. It is depressing to realize how frequently we physicians aid the bankruptcy proceedings.

From the treatment aspect fractures of the shaft of the femur are, in the hands of most of us, the most difficult of all fractures. Speed once labeled fractures of the neck of the femur the "unsolved fracture." With the advent of internal fixation for fractured hips the label may well have gravitated down the femur to the shaft. The multiplicity of methods of treatment and the total lack of agreement among the advocates of each method, as well as the conflict of reported results of the various methods of treatment, indicate confusion in the strategy of the attack on this problem. Much of this confusion is a result of unwarranted emphasis by the proponents of specific methods of treatment on individual components of the problem, rather than a total evaluation of all of them.

The advocates of internal fixation emphasize the short hospitalization period and minimize both the longer healing periods and the increased residual

disability resulting from treatment by that procedure.

The advocates of external fixation emphasize the short hospitalization period, early ambulation, and early joint motion and fail to mention the longer total healing period, increased frequency of non-union and numerous other complications.

The advocates of traction emphasize the better end results and fewer complications at the expense of the long period of hospitalization.

Special emphasis on any one of the factors, i. e., expense, complications, ambulation, early mobility of joints, shortage of hospital beds, etc., increases the confusion, warps our surgical judgment, and clouds the issue.

Another factor which has added confusion to the treatment of femoral shaft fractures has been, strangely enough, x-rays. A perfect economic and functional result need not necessarily (though of course it helps) be a perfect x-ray result. Our desire to obtain an x-ray demonstrating a perfect reduction, the occasional dread of adverse professional criticism of an incomplete reduction, and the constant pressure of uncomprehending patients, relatives, and friends frequently results in a "hibernation" of good judgment and the adoption of an unwise method of treatment.

Another source of confusion is a lack of the knowledge of the complications of the various methods of treatment of these serious fractures, particularly when the complications are not mentioned or they are minimized by the silver-tongued detail man who has a sales talk describing the wonders of an apparatus based on mechanics rather than physiology.

It is felt that a short analysis of the various treatments of femoral shaft fractures might erase some of the confusion as to the proper method to employ. It is not the purpose of this analysis to be critical of the various procedures in the hands of their originators or those who are unusually skilled in their applications but to demonstrate their haz-



ards for the average group of surgeons. Also, let it be understood that circumstances may alter cases and those which we may regard in this discussion as less preferred procedures may be the ones of choice in selected cases. Another factor to be considered is the availability of substitute procedures in the advent of failure of the one instituted primarily.

1. **REDUCTION AND CAST** is mentioned only to be immediately condemned except in the extraordinary situations. A "greenstick" fracture in a child or a transverse supracondylar fracture, which are rarely seen, are the only situations in which reduction and cast would be applicable and even then must be regarded skeptically. In transverse fractures of the shaft, even if a perfect reduction is obtained, angulation is almost certain to occur in the cast, as a result of absorption of hemorrhage, and muscle atrophy or opponent muscle pull. In oblique or comminuted fractures there is certain to be shortening to a disabling degree which even such ingenious though futile procedures as incorporated skin traction will not prevent. There is also the added complication of loss of knee motion with the long period of immobilization in the cast which is required for healing, particularly when the knee is so frequently maintained in hyperextension.

2. **SKIN TRACTION** simply applied with a direct pull either in or out of a splint is so infrequently successful it should not be selected as a treatment of choice. Mechanically such traction functions at a tremendous disadvantage, having as its area of purchase only the skin which is a flexible, tractile base which is unassociated with the femur whose position and length it is supposed to control. Infrequently can sufficient weight be applied to obtain a reduction and less frequently can the skin tolerate sufficient traction to maintain a reduction, if obtained, over a long enough period of time to result in healing.

3. **RUSSELL TRACTION**—a form of skin traction—is a successful means of treatment, providing the operator has a perfect understanding of the mechanical principles involved, has ample time to enforce those principles and personnel trained to maintain the apparatus and to properly nurse the patient. Of all the methods employed it requires the most meticulous, constant, and intelligent supervision. Because of these requirements it is a method chosen by only a few surgeons. For the average surgeon treating one or two fractured femoral shafts a year the method requires so many refinements and niceties of adjustment and care as to make it inadvisable.

4. **EXTERNAL SKELETAL REDUCTIONS AND FIXATION** such as the Stader splint and the

variations such as the Roger-Anderson appliance, etc., or incorporation of transfixing pins in plaster after reduction, represent a system of treatment of femoral shaft fractures too dangerous to be employed by the average surgeon. The complications are numerous such as loss of position due to a broken pin or one pulling loose, ring sequestra at the site of the pins, infections, nonunion due to overpull of the fracture fragments and, quite contrary to the advertisements but according to unbiased reports, long periods of bed rest, longer periods of total protection, and greater loss of knee motion than in treatment by other methods. Apparently only in the hands of the inventor or the unusually well and specifically trained surgeon is this type of treatment applicable for fractured femoral shafts.

5. **OPEN REDUCTION** with the application of plates, bands, etc., for internal fixation results usually in the best x-ray results immediately post-operatively but about the worst end results when measured by x-ray and by function. In the hands of the masters such as Clay Murray, who died recently, the results were good, but in the hands of the average orthopedist or surgeon the details of the technique create obstacles which prevent good end results. Such technical details as the length of the plate, the strength of the plate, the length and the seating of the screws, the type of metal used, the avoidance of distraction of the fragments, the disposition of loose fragments, the surgical approach, the avoidance of infection, and the post-operative fixation are only a part of the details involved in the procedure. A good end result is frequently further complicated by fracture of the plate, loss of position by angulation at the fracture site through a bending plate, by the almost universal major loss of knee flexion, and the frequency of delayed and nonunion. Delayed union and nonunion have been, in fact, so frequently a complication in open reduction of fractures that now when we are forced to do an open reduction we routinely graft ilium into the fracture site at the time of operation. This grafting procedure has definitely improved our results but should not be necessary in a competent method of treatment. Our experience in our own practice and our conclusions from observation of many referral cases leads us to the conclusion that open reduction of fractured femora is one of the least advisable methods of treatment.

6. **INTRAMEDULLARY FIXATION** of fractured femoral shafts, spectacularly highlighted during the war by the Kunchner nail, has had such variable success and has been attended by such dramatic complications that its use at present is inadvisable. Intramedullary nailing may, however,

eventually come as near solving the treatment of fractures of the femoral shafts as has nailing solved the treatment of fractures of the femoral neck. The procedure of reducing the fracture and inserting the nail is more formidable and complicated than plating the fracture, and the possibilities of a nonunion after the procedure are as great as in plating procedures unless every detail is meticulously observed. In the advent the nail angulates the problem of its removal is monumental. A Chicago orthopedist—a friend of ours whose veracity we accept—spent almost four hours sawing in two a Kunchner nail to correct a deformity in a nailed fracture resulting from a fall. A carefully controlled study and procedure of intramedullary nailing is being conducted but is not yet sufficiently advanced to be accepted.

The issue for us is to select the method of treatment of fractured femoral shafts which will result in the fewest deformities and the least residual loss of function. This is an economic approach which will produce for the patient the best possible machine with which he may eventually recoup his immediate economic losses. Any method aiming primarily to reduce the immediate economic pressure at the expense of eventual earning capacity is unsound. In other words we physicians—self admittedly poor economists—may be “penny wise and pound foolish” in attempting to save the patient pennies of hospital bills to obtain a result which will cost the patient pounds of earning capacity.

We believe that the method of choice in the treatment of fractured femoral shafts is by Kirschner wire skeletal traction in a balanced Thomas splint with a Pierson attachment. This conclusion is based on our own experience as well as many reports based on series of cases treated by numbers of surgeons by the various methods. The factors considered in these reports which lead to this conclusion are: comparison of duration of absolute recumbency, length of periods of protection after recumbency, duration of time necessary for x-ray evidence of union, amount of residual knee motion, frequency and nature of the complications, etc. Only in two of all these factors does skeletal traction fail to excel; one is the long period of hospitalization required and the other is the occasional shortening of the femur which is rarely consequential. The better results in alignment and knee function, the shorter period of work incapacity, and the fewer complications greatly outweigh the two disadvantages.

Occasionally, open reduction and internal fixation may be required if the interposition of muscle prevents near apposition or if there persists an unacceptable angulation or shortening. In our experience this has been rarely necessary and the interposition of muscle is more frequently used as an

excuse than as a reason for open reduction. For a considerable period of years, but not recently, open reduction of fractured femoral shafts was our treatment of choice and we had occasion to operate a goodly number, and in those cases operated only two had interposed muscle which might have prevented reduction by traction. Because so few cases actually have been found at operation with muscle interposition we believe that almost invariably failure of reduction by skeletal traction is a failure of the operator's mechanical sense and of his understanding of muscle actions rather than a pathological interposition of muscle tissue. Open reduction also may be required, if the fracture has been seen too late to achieve by traction, a correction of alignment and length. If the fracture is 10 days or two weeks old and adequate reduction has not been achieved, shortening may certainly be anticipated and angulation as well if treated by traction. In these intermediate cases open reduction may be the method of choice.

We reserve open reduction and plating for those cases in which if after adequate traction there is:

#### A. Irreducible angulation

1. Greater than  $20^\circ$  in varus.
2. Greater than  $20^\circ$  anteriorly.
3. Greater than  $10^\circ$  in valgus.
4. Greater than  $10^\circ$  posteriorly.

#### B. Shortening

1. Of more than one inch if the patient is older than 13 years.
2. Of more than  $1\frac{1}{2}$  inches if the patient is younger than 13 years.

The criteria of an adequate reduction by any method of treatment are:

1. Less than  $\frac{1}{2}$  inch shortening.
2. Apposition of  $\frac{1}{3}$  of shaft.
3. Alignment.

#### A. Rotation—none internal, less than $15^\circ$ external.

#### B. Angulation

None valgus or posterior.

Less than  $10^\circ$  anterior or varus.

If these criteria are satisfied, regardless of the appearance of the x-ray of the fracture site, we are confident that an adequate result will be obtained. It is seldom that these criteria cannot be achieved by skeletal traction in a balanced frame, thus eliminating the numerous and frequently devastating complications of open reduction or external skeletal fixation.

Now after having built up a case for skeletal traction for fractured femoral shafts, I wish to retract from its application a limited group of cases.



This group is children under six years of age. This group of cases constitutes a problem of its own which must be treated by a much simpler traction method. Adhesive skin traction is applied from the ankle to the proximal end of the femur and the child is suspended by weights and pulleys. The primary overhead pulley is directly over the pelvis and weights are sufficient to suspend the buttock of the fractured side free of the bed. Immediate correction of alignment is obtained and usually correction of shortening except in transverse fractures where a half inch shortening may persist. It is unnecessary but may be advisable to correct this shortening by manipulation under fluoroscopic control with anesthesia, while the leg remains in traction in the apparatus. The shortening usually can be corrected by angulating the fragments in the same direction as the angle of the pre-traction films to obtain end to end contact, then correcting the angulation or allowing the traction to do so.

During the period of suspension no effort is made to prevent the patient's activity, allowing him to roll about in bed as he desires on his back, face, or side, so long as the traction apparatus through its pulleys is free to maintain constant tension on the leg sufficient to elevate the buttock from the bed. By four weeks x-rays usually demonstrate sufficient callus to allow the application of a cast which immobilizes the femur for an additional six weeks.

This cast is applied while the patient remains in traction in bed by means of elevating the shoulders on an overturned basin and supporting the good leg. This procedure completely frees the pelvis of bed contact by several inches and while in this position the rope is tied to prevent the added cast weight dragging the torso to the bed. The plaster is then applied over the adhesive, incorporating the foot, pelvis, and torso but not necessarily the good leg. The femur is, of course, flexed at  $90^{\circ}$  at the hip which allows the child to sit with his cast, at the same time affording ample comfort for recumbency and assuring no possibility of unauthorized weight bearing.

After removal of the cast, after x-ray evidence of solidification of the fracture site, function is allowed which is the only post-immobilization treatment necessary to achieve a normal leg. In over 20 years of orthopedic practice we have yet to see a poor result of a freshly fractured femoral shaft in a child under six treated by this procedure, and we believe an open reduction is never warranted. It is granted, however, that a great deal of persuasion is often necessary to convince doubting parents and undoc-trinated fellow practitioners of the wisdom of allowing a femur to heal in a six-year-old with shortening and little or no apposition. Complete confi-

dence of the surgeon in the procedure must precede any effort to convince an over-anxious parent. Your confidence may be based upon these proven factors in children's fractured femora:

1. Union is more rapid than in adults.
2. Delayed union is rare.
3. Nonunion in nonpathological fractures is unknown.
4. Loss of knee motion is transient.
5. An overgrowth in the fractured femur of at least one cm. may be anticipated.
6. Epiphyseal growth tends to eliminate or does eliminate angulation.

It is recommended that the treatment of fractured femoral shafts in the remaining age group be by Kirschner wire skeletal traction in a suspended balanced Thomas splint with a Pierson attachment. This procedure involves two separate factors—first, the balanced splint whose function is to support the leg and to prevent posterior angulation and varus, and second, the skeletal traction to correct the shortening and to achieve alignment. In the treatment of these fractures by this method the distinct functions of each of these two factors must be constantly kept in mind both in the original application of the method and in the after care. Confusion in the function of either of the factors may result in failure.

The Thomas splint must have a Pierson attachment with the hinge at the knee level to allow a slight degree of stationary flexion of the knee joint. The Pierson attachment is necessary as it allows the knee to flex sufficiently to prevent rotation of the distal fragment and the slightly flexed position relieves tension on the posterior capsule of the knee which increases the patient's comfort during treatment and decreases the residual stiffness of the joint. The Thomas splint is suspended by a rope extending from the thigh band to the base, this suspension rope runs over a series of pulleys in an overhead frame with a weight slightly greater than the splint hanging between two pulleys to allow a rocking motion of the splint for nursing care and necessary position change. Both the thigh and the leg portions of the splint are covered with individual strips of muslin, six inches wide, pinned at each side over the side bars to allow free adjustment of their tension. A foot piece is provided either stationary or individually balanced to prevent toe drop. This completes the splint factor in the treatment.

The skeletal traction is provided by a Kirschner wire and traction bow. A Kirschner wire is much to be preferred over a Steinman pin or tongs because the use of the wire results in decidedly fewer complications and also in decreased bone trauma.

After all of the apparatus is assembled in the patient's room he is given an anesthetic; sodium pentothal is preferred in our service though occasionally instead of a general anesthetic heavy narcosis is utilized. The area about the knee where the Kirschner wire is to be introduced is carefully surgically prepared by scrubbing, application of skin antiseptic, and carefully draped. Certainly it should not be necessary to point out the absolute necessity of perfect asepsis in the introduction of the wire. This procedure requires as careful skin preparation and the instruments as thoroughly sterilized as for any surgical procedure. The application of the wire necessitates, of course, a special drill to maintain its rigidity during the introduction. The skin must be pulled proximally on both sides of the leg during the introduction of the wire to prevent painful tension on it when traction is applied. The preferable point to apply the wire is just proximal to the condyles of the femur through the hard cortical bone of the shaft. The second choice is through the tibial tubercle. In selecting the site for the wire several general factors must be kept in mind:

1. Avoid the hematoma.
2. Avoid the joint capsule.
3. Avoid in children and adolescents the epiphyseal lines.

In selecting the site for the wire several specific factors must be also considered:

1. If the fracture is very near the condyles, the tibial tubercle should be used.
2. If the displacement of the distal fragment is posterior, the wire should be placed in the anterior portion of the shaft.
3. If the displacement of the distal fragment is anterior, the wire should be placed in the posterior portion.

After the wire has been introduced and the puncture wounds about the protruding ends have been sealed with collodion the leg is placed in the Thomas splint with the knee flexed at  $20^{\circ}$  and the traction bow applied to the wire. Tentative weights are then attached to the splint and bow, and procedure of reduction is begun.

Immediate reduction meeting the previously established criteria of length, alignment, and apposition should be obtained within minutes or hours, not days of time. The portable x-ray machine should take up residence beside the patient's bed and recheck x-rays made after each alteration until the criteria are satisfactorily met or despaired of. The alterations of weights and the adjustments of the splint should be a constant function until reduction is achieved—not a piecemeal process with intervening days of lapses of attention. If skeletal

traction will reduce the fracture the result can be achieved much more easily in the first hour or two than in any number of subsequent days.

An initial application of 30 to 40 pounds of weight is often required to obtain length and alignment. If the wire has been placed in the femur, the traction should be in the direct line of the femur. If the wire has been placed in the tibial tubercle, the traction should be somewhat above the line of the femur. Abduction or adduction of the splint is frequently necessary to alter varus or valgus angulation. Changing the tautness of the bandage strips in the Thomas splint is often required to alter posterior or anterior angulation. Occasionally posterior angulation may be altered in distal third fractures by moving the Pierson attachment proximally to the fracture site which, if well padded, may act as a fulcrum to alter the deformity.

Great ingenuity and care must be exercised to achieve the best possible position. Every change must be inspected by antero-posterior and lateral x-ray views. This entire procedure should require minutes or hours—not days or weeks of time. Any period of distraction of the fragments even for a few hours will predispose that fracture to delayed or nonunion, and therefore after the criteria of reduction have been achieved the heavy traction of 30 to 40 pounds should be reduced to 15 or 20 or to whatever amount allows not the slightest distraction of the fragments but still maintains alignment. As the case progresses over the next few days and the muscles lose their tone, probably less and less weight will be necessary to prevent distraction. Distraction of the fracture fragments is by far the most frequent cause of delayed union and nonunion and must be prevented at almost any cost. A good procedural slogan is to require quarter hourly x-rays until reduction has been achieved and weekly x-rays after reduction. If in spite of the precaution of pulling the skin proximally in the application of the Kirschner wire, there is painful traction on the skin, the taut skin should be incised under local anesthetic and resutured to relieve the traction pain.

The traction and splint must be maintained until x-rays demonstrate adequate healing of the fracture. The x-ray interpretation must be supplemented by cautious lateral medial and antero-posterior manipulation to determine the presence of any "give" or instability through the fracture site. The x-rays are misleading often enough that they must be checked by objective findings. With the beginning of the appearance of callus the Pierson attachment may be liberated and the patient allowed to guardedly actively and passively exercise his knee.

The usual period of recumbency and traction is three months, depending on age, reduction, etc.,



and largely on some unknown and unpredictable factor of healing of fractures. After adequate callus has been achieved the apparatus is removed and active and passive physiotherapy begun. After a week in bed unsupported the patient is allowed to walk with crutches with or without an additional brace support to his thigh depending on the confidence of the surgeon in the union of the fracture. The period of protection following the removal of the traction is usually about three or four months.

In evaluating his end results the surgeon may well utilize a formula long in use. The factors of this formula are:

Appearance  
Visual

X-ray

Function

Range of motion in knee  
Shortening  
Angulation  
Subjective complaints

Economic

Percentage of economic loss

In conclusion may we emphasize again that in our hands and as well in those of the average surgeon, skeletal traction is at present the method of choice in the treatment of fractures of the shaft of the femur.

## Kansas Medical Society Annual Meetings

1951

May 14-17

TOPEKA, KANSAS

1952

May 5-8

KANSAS CITY, KANSAS

# A Case of Muscular Dystrophy of the Facio-Scapulo-Humeral Type (Landouzy-Dejerine Syndrome) Associated With Hyperostosis Frontalis Interna With Accompanying Metabolic Disturbances\*

Phyllis J. Burdon, M.D., and Perry D. Petterson, M.D.\*\*

Topeka, Kansas

The case herein described is reported because of the unusual coincidence of hyperostosis frontalis interna associated with multiple endocrinopathies in a patient with the Landouzy-Dejerine type of muscular dystrophy who came to autopsy. The syndrome of hyperostosis frontalis interna associated with headache, obesity, neuropsychiatric disorders and metabolic disturbances (Stewart-Morel-Morgagni Syndrome) has been described by many authors.<sup>1-9</sup> No definite relationship between these various entities has been proven and the association may be coincidental.<sup>9</sup>

## Case Report

A 57-year-old white, married, rural mail carrier entered this hospital March 22, 1948, and remained hospitalized, except for short intervals, until his death October 22, 1948. His chief complaints on admission were recurrent attacks of nervousness, weakness, particularly of the legs, headaches, and occasional nausea and vomiting, of approximately 20 years' duration. The most recent attack had lasted one month and caused him to enter the hospital. It had been immediately preceded by a short bout of "flu" in which diarrhea and backache were the outstanding symptoms. Additional complaints were mild exertional dyspnea of 12 years' duration, nocturia and urinary frequency of five years' duration, aching of the knees, constipation, occasional vertigo on arising in the morning, failing vision and loss of libido and potentia in recent years. The system review was otherwise negative.

He was admittedly uncertain of dates in his medical history. His past history revealed that at the age of three he had had an undiagnosed febrile illness which was followed by a transient blindness and deafness for several weeks. (He believed his bilateral ptosis dated from this illness.) In 1915, at the age of 24, he had had mumps with bilateral orchitis followed by bilateral testicular atrophy. In 1932 he was in an automobile accident and was

unconscious for approximately one-half hour. Several years after the onset of his present illness he sought medical attention elsewhere and was placed on thyroid medication daily. In December 1940, he visited the Mayo Clinic where a clinical diagnosis of myotonic dystrophy was made. Skull x-rays there revealed frontal hyperostosis interna with slight calcification of the falx. The urinalysis at that time revealed glycosuria, but the patient left before further studies could be completed. BMR there was reported as —19 per cent. In 1943 he was examined at the Hertzler Clinic in Kansas, where diabetes mellitus was first diagnosed. For the three years prior to admission to this hospital he had been taking dessicated thyroid grains v and protamine zinc insulin 25 units daily. Repeated attempts at weight reduction had been unsuccessful. No other



Figure 1a. Bilateral ptosis (more marked on the left), myopathic facies and atrophy of pectoral muscles.

\*Sponsored by the VA and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

\*\*From the Department of Internal Medicine, Winter Veterans Administration Hospital, Topeka, Kansas.



cases of muscular dystrophy were found in the family history.

Physical examination revealed an obese, lethargic, white male appearing older than his stated age. The facial expression was fixed because of bilateral paresis of the facial and trigeminal muscles (Figure 1). There was a pronounced bilateral ptosis, more marked on the left (Figure 1a). The voice was low, weak, and monotonous. The sensorium was clear and the patient was well oriented. Recent memory was moderately impaired; remote memory was preserved but inaccurate. He was mildly depressed. The obesity was limited to the abdomen where the panniculus hung in large folds while the extremities, in comparison, were slender. The skin was fine in texture but fallow, with a progeric change about the ears (Figure 1b). The blood pressure was 140 mm. Hg. systolic and 85 mm. Hg. diastolic. The pupils were irregular, but reacted normally to light, and in accommodation. There was an early cataract in the left lens. Ophthalmoscopic examination revealed no evidence of retinitis; the relationship of the vessels was 4/3 with A/V compression and tortuosity of the veins. Examination of the thorax, heart, abdomen, back and extremities was negative. There was marked bilateral testicular atrophy. There was bilateral paresis of the vocal cord, uvula, tongue, sternocleidomastoid muscles and the flexors and extensors of the cervical spine. There was wasting and weakness of

the pectoral muscles (Figure 1). The entire musculature was flabby and hypotonic, and a faint myotonic reaction was elicited in the muscles of the thenar region. The abdominal skin reflexes were absent and the ankle jerks were variable. Otherwise, the reflexes were slightly hyperactive. A marked swaying to the left was found on the Romberg test and the gait was on a broad base. No sensory changes were found.

Laboratory data revealed a hemoglobin of 14.8 grams (Haden-Hauser method); r.b.c. 4.99 million cells per cu. mm., leucocytes 8,200 cells per cu. mm. with a differential count which was within normal limits. The sedimentation rate was 24 mm. per hour (Wintrobe Method). The serology was negative. Urinalyses revealed varying amount of glycosuria varying from 12.6 to 38.2 grams per 24-hour period. The initial blood chemistry revealed a fasting glucose level of 137 mgm. per cent; serum cholesterol 200 mgm. per cent; chlorides (as sodium chloride) 465 mgm. per cent; non-protein nitrogen 35 mgm. per cent and CO<sub>2</sub> combining power of 70 volumes per cent. A number of subsequent determinations revealed the following minimum to maximum readings: glucose 89-299 mgm. per cent and cholesterol 200-285 mgm. per cent. Serum calcium, phosphorus and alkaline phosphatase determinations on the same date were 12.1 mgm. per cent, 4 mgm. per cent and 6.8 Bodansky units respectively. A second serum calcium was 12.5 mgm. per cent. The whole blood creatinine varied from 1.8 mgm. per cent to 2.8 mgm. per cent.

Liver function studies, including the bromsulphalein retention, cephalin flocculation, thymol turbidity and a bilirubin partition, were within normal limits. The basal metabolic rate varied from -12 to -17 per cent, these being taken while the patient continued to receive thyroid medication. The urinary excretion of 17 kerosteroids was 8.0 mgm. per 24 hours. A creatinine tolerance test revealed the average excretion of 1.5 grams per 24 hours of creatinine and 0.67 grams of creatine before ingestion of 1.0 gram of creatine, and 1.0 gram and 0.88 grams respectively afterwards. The cerebrospinal fluid was clear and colorless, devoid of cells, had a negative globulin complement fixation and gold curve and contained 22 mgm. per cent of protein.

A modified Kepler-Power water test was suggestive of adrenal insufficiency in that it showed delayed diuresis after water ingestion. Roentgenographic examination of the chest was negative. Stereoscopic roentgen films of the skull revealed marked thickening of the frontal bones, and considerable calcification of the falx with projections into the right hemisphere; the sella was small (Fig-



Figure 1b. The progeric change about the ear is evident as are the myopathic facies and the pectoral muscle atrophy.

ure 2). Normal diaphragmatic movements were observed on fluoroscopic examination. The original electrocardiogram revealed a first degree heart block with a P-R interval of 0.3 seconds and a normal QRS duration. A second electrocardiogram,

roid dosage was greatest at time of admission and was lessened in later months with the hope of diminishing the increasing insulin requirement.

The patient's wife described an attack which occurred in May, 1948, as follows: The patient had a frontal headache of three to four days' duration; then sudden excruciating pain in the left knee and calf, pain in the lower posterior thoracic region, and oppressive pain in the chest all of one afternoon. Pronounced weakness, rectal incontinence and confusion occurred during the latter period. The final hospital admission (October 10, 1948) was precipitated by marked fatigue and headache. The mental depression which had been noted on previous admissions appeared to be accentuated. On October 22, 1948, at 2:00 A.M. he suddenly experienced a "pressure or bloating" type of discomfort in the right inframammary area, associated with aching pain in the left shoulder.

An emergency electrocardiogram revealed the following pertinent changes: QRS complexes: Lead 2, vibratory, Lead 3, AVF showed slight R, and deep S waves. T waves: T<sub>1,AVL</sub> are deeply inverted, T<sub>3,AVF</sub> are high and upright. S-T segments: S-T<sub>1,AVL</sub> are deeply depressed, S-T<sub>2,3,AVF</sub> are elevated. Pre-cordial leads: ST<sub>V1-V6</sub> are depressed with ST<sub>V5-V6</sub> showing downward bowing. T<sub>V1</sub> is larger, T<sub>V2-4V</sub> are smaller and T<sub>V5-6</sub> are inverted. Emergency blood sugar, chloride and carbon-dioxide volume per cent were within normal limits. A portable emergency chest x-ray was negative. At 10:20 A.M. he expired suddenly with clonic convulsions of both upper extremities.

Autopsy: Gross examination was performed by Dr. L. Berlin within eight hours of death. Pertinent findings included a moderate amount of fatty infiltration in the myocardium. There was a pale area of softening over the apex involving the anterior border of the left ventricle. Over the same area and within the anterior wall of the left ventricle there was an area 2 x 0.5 cm in diameter which was softened and showed pale fibrotic thickening. All the coronary vessels showed marked thickening and calcification. The liver was of a deep purplish color. The surface showed increased lobular markings but no retraction. Cut surfaces revealed the same lobular markings. The adrenal showed considerable post mortem change. The left kidney showed an accessory vessel entering the lower pole. Both testes were atrophic and together weighed 20 grams; each measured 2.0 x 1.5 x 1.0 cm. The bones of the calvarium were thickened, especially the frontal bones whose anterior portions measured up to 1.7 cm. in thickness. The parietal bones measured up to 1.0 cm. in thickness, and the occipital 0.7 cm. Protruding into the intracranial cavity were

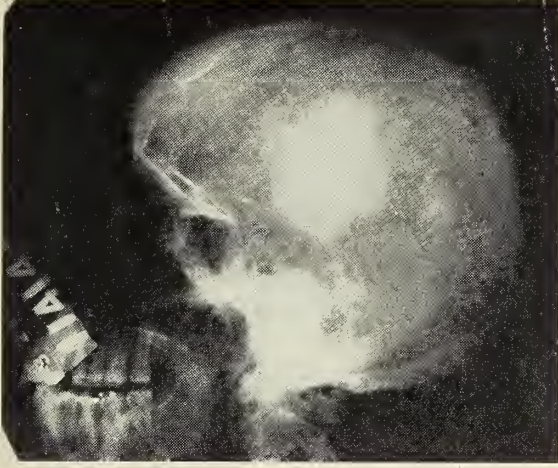


Figure 2a. Frontal hyperostosis interna.

two months later, revealed additionally a prolongation of the intraventricular conduction time to 0.12 seconds. The electroencephalogram was normal.

During his clinical course the patient gradually became worse, requiring increasing amounts of insulin, adrenal cortical extract, and testosterone. Thy-

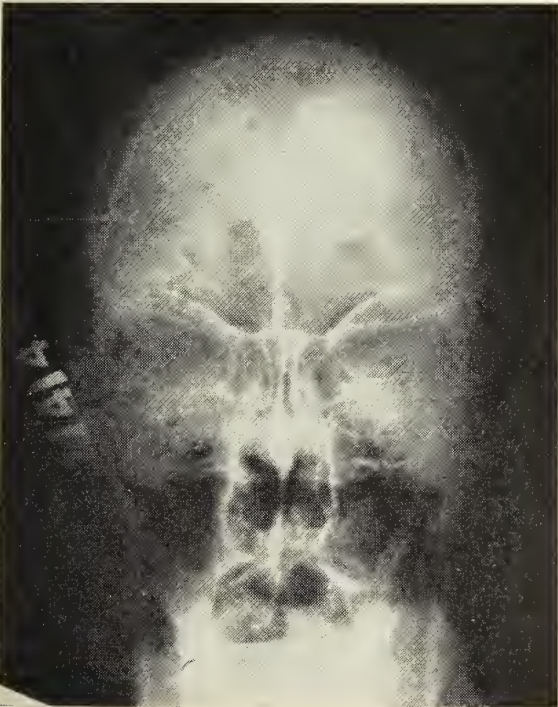


Figure 2b. Calcification of the falx with protrusion into the right hemisphere.



two prominent bulging bony masses with verrucous protrusions extending from the inner tables of both frontal bones. Within the falx there were several large bony masses extending both antero-posteriorly and somewhat laterally into the right cerebral hemisphere. One of these bony masses measured 5.7 x 1.7 x 2.5 cm. (Figure 3). In the region of the left tegmen tympani there was a prominent bony



Figure 3. Thickening of the frontal bone with verrucous protrusions into cranial cavity. Separate specimen is from calcified falx.

protrusion measuring 2.5 cm. in diameter and resembling the bony protrusions of the frontal bones (indicated by arrow in Figure 4). There was a mild degree of sclerosis of the basilar blood vessels and

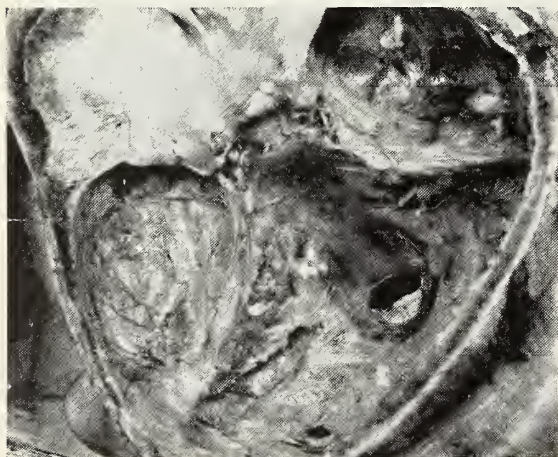


Figure 4. Verrucous exostosis of the left tegmen tympani

considerable injection of the small vessels at the base of the pons. The pituitary gland appeared unaltered in situ and upon gross section.

Microscopic examination was performed by Dr. A. Plaut and Dr. L. Berlin. Sections of heart, lung, spleen, kidney, liver, pancreas, prostate, and bone marrow were within normal limits. The myocard-

ium of the left ventricle contained diffuse small scars. Much fat tissue was found between the muscle bundles of the outer layers of the right heart.

The testes showed severe atrophy and fibrosis. After long search early phases of spermatogenesis were found in a few tubules.

Many sections of the suprarenal glands failed to show definite pathological changes. The cortex was thin, the structure of the fasciculata indistinct. The lipoids were distributed irregularly.

In the thyroid about half of the follicles appeared normal with well-staining colloid. Most of the others were small and their contents stained only faintly with eosin. There was occasional slight scarring and there were some small and a few large accumulations of lymphoid cells.

The one parathyroid gland that was examined was normal.

The sections of striated muscle from different parts of the body did not show any conclusive changes.

There was severe stasis in the anterior lobe of the pituitary. The cellular pattern was normal. There was one chromophobe adenoma the size of a high power field. Epithelial invasion in the posterior lobe was slight, pigment in places was abundant. There were rather conspicuous rows of Erdheim cells under the capsule.

Sections of the brain revealed thickening of the arteriolar walls and in places a tendency toward hyalinization of the walls. In other areas there was perivascular rarefaction of tissue with proliferation of astrocytes.

#### Pathological diagnosis:

1. Arteriosclerosis, generalized
  - A. Coronary artery sclerosis with coronary insufficiency.
    - (1) Old infarction of apical portion of left ventricle.
    - (2) Diffuse myocardial scars. Obesity of myocardium.
2. Hyperostosis frontalis interna. Calcification of falx cerebri.
3. Small periarterial encephalomalacic foci.
4. Atrophy of testes.

#### Discussion

The protean nature of the symptomatology associated with hyperostosis frontalis interna makes interpretation of the significance of this entity most difficult. We consider that the presence of headache, mental depression and transient confusion, together with multiglandular disturbances characterized by obesity, diabetes mellitus, hypothyroidism, hypoadrenalism, hypogonadism and hypercalcemia, the long history of morbidity and vagueness of symptoms, plus the roentgenologic finding of

hyperostosis frontalis interna place this patient in the category of the so-called Stewart-Morel-Morgagni syndrome. Necropsy findings in this case neither verified nor disproved our clinical diagnoses; however, such histologic changes of more or less non-specific nature have been found repeatedly in the endocrine organs of patients with muscular dystrophies.<sup>10, 11</sup> Whether the muscular dystrophy of the Landouzy-Dejerine type in this case is related to the aforementioned syndrome remains undetermined. One might entertain the concept that altered creatine metabolism may relate the two conditions. Fagin<sup>7</sup> reported two cases of dystrophia myotonia, one of which was associated with hyperostosis frontalis interna. He suggested the possibility of a common underlying defect in dystrophia myotonia and hyperostosis frontalis interna.

#### Summary

A case, including the autopsy findings, of a 57-year-old white male with obesity, headache, neuro-

psychiatric disturbances, multiglandular disturbances, and hyperostosis frontalis interna associated with the Landouzy-Dejerine type of muscular dystrophy is presented.

#### Bibliography

1. Moore, S.: Hyperostosis frontalis interna. A preliminary study. *Surg., Gynec., and Obst.* 61: 345-362, 1935.
2. Morel, F.: L'hyperostose Frontale Interne. *Syndrome de l'Hyperostose Frontale Interne avec Adipose et Troubles Cerebraux*. Paris, 1930. Gaston Doin et Cie.
3. Moore, S.: Metabolic craniopathy. *Am. J. Roentgenology*, 35:30-39, 1936.
4. Stewart, R. M.: Localized cranial hyperostosis in the insane. *J. Neurol. and Psychopath.* 8:321-331, 1928.
5. Perkins, O. C., and Biglan, A. M.: Hyperostosis frontalis interna. Review of the literature. *Psychiatric Quart.* 12:341-350, 1938.
6. Knies, P. T., and LeFever, H. E.: Metabolic craniopathy. Hyperostosis frontalis interna. *Ann. Int. Med.* 14:1858-1892, 1941.
7. Fagin, I. D.: Dystrophia myotonica. Report of two cases with associated hyperostosis frontalis interna in one. *J. Michigan M. Soc.* 45:500-503, 1946.
8. Grollman, A., and Rousseau, J. P.: Metabolic craniopathy. A clinical and roentgenologic study of so-called hyperostosis frontalis interna. *J.A.M.A.* 126:213-217, 1944.
9. Harding, F. E.: Endocrinopathies associated with hyperostosis frontalis interna. *Amer. J. Med.* VI, 329-335, 1949.
10. Aring, C. D., and Cobb, S.: The muscular atrophies and allied disorders. *Med.* 14:77-118, 1935.
11. Wilson, S. A. K.: *Neurology*. Williams and Wilkins Co., Baltimore. Vol. II, pp. 975-991. Publ. 1940.

### NEW A.M.A. DIRECTORY

A copy of the A.M.A. directory for 1950, the first published since 1942, has been received at the Executive Office. Information from the directory will be supplied upon request. Physicians interested in securing their own copies, at \$25 each, may order them from

Mr. A. W. Stack  
Fellowship, Membership and Subscription Department  
American Medical Association  
535 North Dearborn Street  
Chicago 10, Illinois



## Poisoning Following Magnesium Sulphate Enema

Leslie L. Saylor, M.D., and Richard Greer, M.D.

Topeka, Kansas

This is a case report of magnesium poisoning following an enema, containing a saturated solution of magnesium sulphate, which was given following surgery.

There have been 18 cases of magnesium poisoning reported in the literature, not due to industrial accidents. Most of these cases were due to the cumulative effect of multiple doses of epsom salts given by mouth. Fawcett and Gens (J.A.M.A. 123:16, 1028 December, 1943) reported two cases of magnesium poisoning following enemas which contained saturated solution of magnesium sulphate, also given postoperatively. One of their cases died, the other recovered following administration of calcium, the specific antidote.

The signs and symptoms of magnesium poisoning are so dramatic and so severe and the possibilities of death are so immediate that we believe a warning should be given again of the possible fatal effects of this apparently innocuous drug. The first symptom of poisoning is a feeling of internal heat beginning in the abdomen, gradually spreading upward to the chest, neck, and the face. This is invariably accompanied by extreme thirst, and a feeling of lassitude so profound as to render the patient unable to help himself to water or even to call for help. Then develops a paresis involving the legs, trunk and arms, followed later by depression of respiration. The muscles of the neck, the tongue, and eyelids are progressively involved as the coma becomes deeper.

The signs of poisoning are difficult to interpret. The first to develop is a flushing of the skin of the upper chest, neck, and face. The early drowsiness may escape notice until the patient is comatose or until the depression of respiration is very marked. The slowly developing flaccid paralysis may easily be overlooked. The pulse is not affected and the blood pressure does not drop to alarming levels. Complete unconsciousness may or may not occur. In our case the patient stated that she was quite aware of her surroundings.

### Case Report

Mrs. F., a 47-year-old white female, was admitted to St. Francis Hospital on January 3, 1950, for pelvic complaints. She had complained of a bearing-down sensation in the pelvis of one year's duration, accompanied by leukorrhea and vague pains in the right lower quadrant. She was examined in Octo-

ber, 1949, at which time a lemon-sized mass was discernible in the right adnexal region. The uterus, cervix, and left adnexa were apparently normal. Surgery was advised which she chose to defer for three months.

*Past History.* This patient has been married for 25 years, there were no pregnancies and she had a natural menopause, beginning at the age of 43. She had the usual childhood diseases, she had an appendectomy at the age of 19, and developed symptoms of peptic ulcer in February, 1948; however, this was not confirmed by x-ray, and she responded satisfactorily to antispasmodic therapy.

*Physical Examination.* Essentially normal except for pelvic examination, which revealed a mass of approximately 8-10 cm. in diameter in the right adnexal region, which was freely movable. The preoperative diagnosis was chocolate cyst of the right ovary. R.B.C. 3,700,000 Hb 12 gms. U.A. normal.

*Operation.* The patient received intravenous sodium pentothal with d-tubo curare and oxygen inhalation. Pelvic exploration revealed a grapefruit sized chocolate cyst of the right ovary and a small egg-sized similar tumor of the left ovary. The fundus of the uterus contained numerous small intra-mural fibromata. The appendix was absent. The gall bladder, stomach, colon, and other viscera were normal to palpation. A pan-hysterosalpingo-oophorectomy was done. She received 500 cc. of whole blood during surgery. Her immediate postoperative condition was good.

*Postoperative Course.* The patient remained afebrile following surgery. The abdomen was flat, there was no nausea or vomiting. The urinary output approximated 1000 cc. daily. Early ambulation was allowed and the patient was out of bed on her second postoperative day. Because of some mild abdominal cramps, on the third day an enema was ordered, consisting of two ounces of magnesium sulphate, four ounces of glycerin and six ounces of water which was administered at 10:30 a.m. on January 6. Fair results were reported by the nurse, but the enema was followed by nausea and an emesis of a small amount of clear fluid.

At 11:00 a.m. the patient began to develop peculiar symptoms of weakness, extreme thirst and later described a sensation of heat beginning in the

abdomen and slowly rising to the chest, neck and head. She was soon unable to move her legs and arms and could turn her head only with great effort. Speech was difficult and so slurred as to make her unintelligible. Her tongue seemed thick and swollen. She had incontinence of urine and feces. She was seen by a nurse at this time who did not recognize anything unusual in the patient, assuming that she was somewhat exhausted by the enema.

She was seen by both of us at 2:00 p.m. She appeared to be in a coma, she responded to painful stimuli by mumbling, she could not move any part of her body except her tongue and that only slightly. Her face, neck, and upper chest were flushed. The pulse was 92, firm and regular. The blood pressure 100/70, heart sounds were normal, the lung fields were clear although respirations were slow, shallow and abdominal. The abdomen was not distended and the bowel sounds were normal. Her pupils were slightly dilated and reacted only very slightly to light. The corneal reflexes were absent, the eyelids remained in place when moved by the examiner's finger. The tendon reflexes were absent in all extremities and the abdominal reflexes were absent.

The patient was given the usual supportive treatments, oxygen, elevation of the foot of the bed and one unit of plasma followed by 1000 cc. of five per cent glucose. The differential diagnosis was considered at this time and hemorrhagic shock, cerebral thrombosis, pulmonary embolus, and Waterhouse-Friderichsen syndrome were all discussed. A blood count revealed 5,100,000 R.B.C. with 91 per cent Hb. Because of the possibility that this might be an adrenal failure, she was given two cc. of Lipo-cortex and five cc. of aqueous adreno-cortical extract.

Within an hour the patient was able to respond, the blood pressure had risen to 120/80 and motion was gradually returning to her respiratory muscles and extremities. She still complained of extreme thirst and a feeling of internal heat. When questioned as to what happened she stated that within a few minutes after her enema she became extremely thirsty and noticed the feeling of heat already described. She became progressively weaker, her tongue became thick and she lost all power to move her voluntary muscles. She had no pain and

actually felt little discomfort except for the thirst and heat. She said that she was never completely unconscious, that she understood and recognized the doctors and nurses and was aware of what went on, although dimly at times.

By 7:00 p.m. the patient had recovered the use of all her muscles and was able to talk although with some slurring. The following morning she was entirely normal.

It was obvious that this syndrome was not the result of hemorrhage, embolus or adrenal failure. One of us (L.S.) thought of magnesium poisoning and the literature revealed the few reports quoted here. The symptom complexes were identical with the symptoms in this case.

A chemical analysis for magnesium on blood drawn during the episode revealed a serum magnesium level of 3.8 mg. per cent. This was not as high as those reported by Fawcett and Gens but represents a definite increase over normal. This blood sample was kept for several days before analysis was done.

#### Discussion

This case is reported because it represents the potentially dangerous effects of an apparently harmless drug. We are unable to say whether the toxic effect was due to an individual idiosyncrasy or to an unusually rapid and complete absorption of the magnesium.

A specific antidote is readily available, though not used in this case. One gram of calcium gluconate is given intravenously every hour until the patient responds.

The symptom complex is so definite that the complaints of severe thirst and intense internal heat should be regarded as impending magnesium poisoning.

We recommend that magnesium sulphate not be used as enemas.

#### Bibliography

1. Fraser, Chas., Epsom Salts as a Poison, *Lancet* 1:1174, 1909.
2. Magnesium Poisoning, *J.A.M.A.*, 55:2037, 1910.
3. Priestley, J. P., Toxic Effect of Magnesium Sulphate, *N.Y. M.J.*, 96:665, 1912.
4. Fawcett, D. W., and Gens, J. P., *J.A.M.A.*, 123:16, 1028, Dec. 1943.
5. Sollman, T., *M.A.N.U.A.L. of Pharmacology and Its Applications to Therapeutics and Toxicology*, 7th Edition. Systemic Actions of Magnesium, pp. 747, 1948.
6. Linton, Robt. R., *N. E. Jour. Med.*, 242:8, Feb. 23, 1950, Case Records of the Massachusetts General Hosp., p. 297.



## Rupture of Uterus—A Case Report

Cyril V. Black, M.D.

Pratt, Kansas

Mrs. E. B., age 22, was first seen in the ambulance outside the hospital. C. C. pain in lower abdomen, pregnancy eight months.

Past history showed the usual childhood diseases. One pregnancy two years previous to this one. After a trial labor, pregnancy was terminated by a classical Cesarean section. The convalescence was about as stormy as the labor, with chills and high fever.

P. I. Her present pregnancy had been uneventful until two days before admission when she lifted her older baby and had a sharp pain in her lower abdomen. This persisted for about an hour but gradually stopped. Again on the day of admission she lifted the older child and had a recurrence of the pain, but it was more severe this time. They called an ambulance and brought her 25 miles to the hospital.

P. E. On examination we saw a white girl about 22 years old, average size and about 130 pounds in weight. The uterus was enlarged to about the eighth month in size. Her pulse was 80 and her general physical condition was good. The baby's heart tones were normal and about 140 per minute. The abdomen was moderately tender, but not rigid. There was no point of maximum tenderness. The pain was not severe enough to require sedation. After 30 minutes the patient was checked again and her pulse remained 80, and the baby's rate was about 140, but the fetal heart sounds were less dis-

tinct. We elected to do a Cesarean section immediately and within 30 minutes had the abdomen open. There was an apron of black blood clot covering the entire uterus. It was about one-half inch thick and 14 inches by 16 inches across. There was a considerable amount of fresh blood and new blood clots under this. There was a tear in the old incision of uterus about 1½ inches long. With my finger I completely opened the old incision. The placenta was attached under this area and was splinting the old incision. The placenta was removed and the baby girl delivered. She began crying immediately. As there was considerable blood loss the uterus was not removed but closed and the tubes quickly ligated and cut. Time of operation was 22 minutes.

The patient was returned to her bed and plasma was administered. Following this she had one blood transfusion. Postoperatively her temperature went up to 102. She was started on penicillin, 40,000 units every four hours. From this stage on her recovery was uneventful and she was out of bed on the seventh day. The baby progressed normally and without any difficulty.

From this history I believe the uterus had started rupturing two days before the operation but had been splinted by the placenta to the extent that there was no massive hemorrhage at any one time.

A case of ruptured uterus with living mother and baby has been reported.

### Cancer Supplement with This Issue

Readers of the Journal of the Kansas Medical Society are urged to read also the supplement mailed with this issue, containing papers presented at the Second Annual Mid-West Cancer Conference held at Wichita, Kansas, January 19, 20 and 21, 1950. The conference is a joint project of the Committee on Control of Cancer of the Kansas Medical Society and the Kansas Division of the American Cancer Society.

### New Kansas Licenses Issued

One hundred twenty-seven physicians received licenses to practice in Kansas last month, according to an announcement made by Dr. O. W. Davidson, Kansas City, secretary of the Kansas State Board of Medical Registration and Examination. Eighty-eight were licensed as the result of having successfully completed examinations on June 7 and 8, and the remainder were licensed by reciprocity.

Among those licensed by examination are the following from Kansas City: Leonard Herman Akes, Harry Leroy Biggs, Martha Maxine Thornton Brillhart, Mack Albert Carter, Albert Franklin Crumley, Byron Taylor Eberle, Robert Charles Fairchild, William Bradley Gerlach, Waldo Sly Holt, Clifford Eugene Jones, Kenneth Lawrence Knuth, Milton Edward Lindlay, Edward Ernest Long, Victor George McDonald, Jr., Bartlett Wilhite Ramsey, Barbara Edmonds Russell, Niles Monroe Stout, Frederick Udell Timms, Charles Bertan Wheeler, Jr., and Katherine Alice Woods.

Kansans who passed the examination are: Theodore L. Batchelder, Garden City; Ward Eugene Benkelman, McDonald; Franklin Keith Bowser, Ashland; John Edward Buess, Pittsburg; Byron Hugh Buff, Topeka; Daniel Tedford Coats, Topeka; Frank Cvetkovich, Fredonia; Marion Lois Devault, Spring Hill; Richard Lee Dreher, Salina; Edward Joseph Fitzgerald, Liberal; Merle Everett Foland, Alma; Jake Friesen, Hillsboro; Deryl Donavan Fuller, Arlington; Tex Elholm Fury, Salina; John Wheeler Griffin, Jr., Topeka; John Kerfort Griffith, Hiawatha; Wayne Epley Hird, Lawrence; Willard J. Howland, Jr., Lawrence; Glen Curtis Hutchison, Wakeeney; Leda Grace Janke, Claflin; Frederick Otto Joerns, Overland Park.

J. D. Kabler, Wichita; Paul Andrew Kaelson, Jr., Wichita; Warren Lee Kump, Oberlin; Glen McCray, Neodesha; Stanley Rankin McEwen, Wichita; John Warren McKay, Wichita; Alexander Clark Mitchell, Lawrence; Dewey George Nemec, Agenda; George Elbert Omer, Jr., Wamego; Barbara Jane Owen, Lawrence; Larue Wilson Owen, Nashville; Yale Eugene Parkhurst, Winfield; Jack Tellin Peterson, Hutchinson; Harry Orville Phillips, Ottawa; Richard Louis Pokorny, LaCrosse; Charles Byrd Powell, Columbus; Robert Edgar Hollingsworth Puntenney, Newton; Alexander Roth, Wichita.

John Gordon Roth, Wichita; Robert Keith Russell, Olathe; Sherman Fred Saffier, Wichita; Eugene Edward Schwartz, Hoisington; Ross Douglas Skinner, Delphos; Dean Anno Smith, Selden; George Clement Steinberger, Independence; Grant Melvin Stevens, Hutchinson; Clair Leitnaker Tamblin, Baldwin; Robert Anderson Tennant, Pittsburg; Daniel Max Thompson, Alma; Ernest El-

wood Tippin, Jr., Wichita; Richard Neal Todd, El Dorado; Frederick Eugene Totten, Salina; Nathaniel Uhr, Topeka.

Those from outside Kansas and the Kansas City area who received licenses by examination are: Robert Harold Adams, Independence, Missouri; Lars Arden Almquist, Fairfield, Alabama; Paul B. Burger, St. Louis; Paul Russell Carpenter, Morris, Minnesota; Francis Alston Davis, Drumright, Oklahoma; Thomas Winston Hogan, Pleasantville, New Jersey; Wesley Arthur Innes, Raton, New Mexico; John Shaw Kirk, St. Joseph, Missouri; Ferald Dee Mauk, Los Angeles; Richard Ervin Munns, Hampton, Iowa; Roland Dale Ostlund, Seattle; Earl Redfield, Des Moines; Hubert Eugene Smith, Blue Springs, Missouri; Charles Marshall Wood, Oakland, California.

Those admitted to practice in Kansas by reciprocity are: Raymond G. Auvil, Loma Linda, California; John Craig Artman, Kearney, Nebraska; Isaac Murphy Berry, Wichita; Phyllis J. Burdon, Topeka; William Burton Cheeseman, Kansas City; Margaret L. Churchill, New Orleans; Joseph J. Cochrane, Jr., Kansas City; John M. Cook, Lorain, Ohio; Leslie S. Cornfield, Walsh, Colorado; Frank W. Countryman, Topeka; James McCorkle Davis, Winfield; William Joseph Dignam, Kansas City; Charles Joseph Dougherty, Newcastle, Delaware; Peter Fleming, Topeka; Lila J. Gairns, Topeka; Joseph Edward Gootee, Topeka.

Richard L. Hermes, Dallas; John Elbert Kooiker, Topeka; Charles H. McCroskey, Coronado, California; Herbert Charles Modlin, Topeka; Francis C. Newson, Topeka; Frank Boyd O'Connell, Lincoln, Nebraska; Richard John Ohman, Dodge City; Ellis Oster, Beulah, North Dakota; Gideon O'Neil Proud, Kansas City; Floyd Orval Ring, Topeka; William Rottersman, Topeka; Paul Trautman, Winfield; John Ivan Waller, Halstead; John Henry Williams, St. Louis; Robert P. Woods, Chicago; Robert L. Braunsdorf, Topeka; Grant E. Evans, Wichita; Paul Moreman Hulett, Anthony.

### Gift to K.U. Medical Center

A gift of \$75,000 to the University of Kansas School of Medicine for the construction of an auditorium for school affairs has been made by Mrs. J. R. Battenfeld, Kansas City. The auditorium will be known as the J. R. Battenfeld, Jr., auditorium in memory of her son, a flight surgeon who was killed in 1945 when his plane crashed into a mountain.

Dr. Franklin D. Murphy, dean of the school, said that plans are being made to build an auditorium large enough to seat the entire student body and faculty. It will be used for conventions, major public lectures, meetings of small national scientific societies, and recreation.



## PRESIDENT'S PAGE

Dear Doctor:

## THE MILITARY STATUS OF THE KANSAS DOCTOR

It is difficult to write about probabilities but that is the position we face at the present time. The military medicine situation is changing from day to day and we can only speculate as to the future. Complications must of necessity arise when the military contraction suddenly becomes a rapid expansion.

One thing is certain; the medical profession must supply doctors in the desired numbers to the military forces. This number is 3.6 for each thousand in training and double that number for combat troops. If one million men are called into the armed forces, it will necessitate the services of at least 3,600 doctors; and if they all become combat troops, this number must be doubled. Kansas has approximately one per cent of the doctors in the United States so it is easy to calculate our quota.

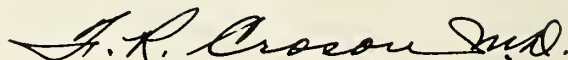
Former V-12 and ASTP men who served no time on active duty are being contemplated for service by all three branches of our armed forces, the Navy, Army, and Air Force. No doubt they will be urged to volunteer and considerable pressure may be brought to bear upon them to enlist. There are about 8,000 men in the United States in this group.

The second group which is receiving consideration are the men who enjoyed a part of their training at government expense and served only during peace time. This group probably will also be urged to volunteer. If enough volunteers are not forthcoming from these two groups and the reserves, then, no doubt, some method of compulsion will be formulated. This would come down through Selective Service and Procurement and Assignment. As far as we know, at this writing, no such method is contemplated.

You will readily appreciate from my remarks that probably NO ONE KNOWS. Certainly no one seems to have specific knowledge of the number of military doctors needed. Of two things we may be certain: first, men with the rank of captain and below are wanted; second, we must furnish them. We must also see that civilian demand is met, that a knowledge of rational treatment of radiation patients be disseminated among the profession, and at the same time we must strive to preserve at least a part of the accomplishments of the Kansas Plan.

A meeting of the Emergency Medical Committee is being called to study the military and the defense problems and we may reasonably expect a statement from them in the near future.

Sincerely,



President.

## EDITORIAL COMMENT

### Graduate Education in Economics

You ask what the Kansas State Chamber of Commerce is doing, why the Kansas Medical Society supports its activities and urges the doctors of Kansas to join. The answer is a manifold story of an organization of business and professional men in all walks of life who hope, as you do, that free enterprise can be continued in our nation.

One project is offered to illustrate the seriousness with which this problem is studied and the practical, down-to-earth approach the Chamber has adopted in its solution. The story is impressive, one you will remember.

Begin this story with an average high school teacher. Let her come from the farm to college and return to a small community teaching economics and government. She will teach her pupils what she has learned and has learned whatever she may have read.

Take the problem of capital versus labor, and what will she know? More than one textbook advocates changes for American economy so that "millions of persons" may enjoy a larger share of the fruits of their labors. More than one newspaper gives something less than the whole story behind a strike.

Where can this average high school teacher learn about Kansas industry? What textbook presents a clear picture of the flow of raw materials through the factory to the consumer as articles of service? Of even greater importance is the human side of this story, the men who operate these plants, the men who make the goods, the men who sell and those that buy. Who are they, what do they think, how do they live?

It has been the exceptional person who has any first hand knowledge of these things. It has been a rare teacher who could instruct on these subjects from any source other than her academic training. Her experience, her knowledge, her outlook on these things are all it is possible for her to teach from and it follows without hope for change that the pupils will learn from her point of view.

Recognizing this, the state Chamber of Commerce organized a tour of Kansas for school teachers, a two weeks trip to the four corners of the state by bus to see agriculture, business and government in operation. Thirty-six teachers with an interest in their profession beyond anything the public has any reason to expect paid about \$100 each for this 2,000-mile tour. They saw the farmer harvest his wheat and talked to him. They saw salt mines, meat packing plants and airplane companies at work.

They visited the state house and county government.

They learned Kansas industry, its physical operation and its purpose. They learned about labor, its problems and achievements. They witnessed the means by which these goods were distributed to the consumer and they talked to the people who accomplished these things.

These 36 teachers who invested their own money in obtaining this first hand knowledge will bring to their students a more accurate story next year and a more interesting story. And it was your Kansas State Chamber of Commerce that made this possible. The purpose behind the plan is of course obvious. Its continuation should certainly be assured.

You ask what the Chamber of Commerce is doing and why the doctors of Kansas are urged to support its activities. Out of a sea of projects, this illustration represents one cupful that has now been completed. But its effects will go on to span the gap between two generations.

---

### ACTH

The partial synthesis and increased production of ACTH will shortly, after 12 years of research, place this product on the market for general use. Rumor has it that ACTH will be available for general hospital use as of about November 1, 1950. Exaggerated and unfounded publicity in popular literature and the presence of an unknown multitude of arthritics will immediately create a hysterical demand upon every physician in Kansas for the use of ACTH. It appears that the time for presenting a warning against the improper and indiscriminate use of this new substance is now, before it becomes available.

In the limited and meager clinical trials of this drug there have been dramatic remissions of symptoms. There have also been created in some of these patients undesirable side effects. Caution therefore is not directed primarily toward conserving this product but rather toward the protection of the patient.

Rheumatoid arthritis has been treated with striking results with the previously bed-ridden patient virtually symptom free after 24 hours. Promise is held for the rapid recovery of patients with acute rheumatic fever and reducing the incidence of heart damage. Numerous authors have reported temporary or prolonged remission of symptoms resulting from a wide variety of conditions, including dermatomyositis, scleroderma, periarthritis nodosum, nephrosis, hypoglycemia, ulcerative colitis, asthma, and a long list of infectious diseases. Among the last



named group are presented cases of pneumonia in which the patient is dismissed as clinically recovered after 24 to 36 hours.

It is known that the introduction of ACTH stimulates the adrenal glands, but the effect of this drug within the body is still undetermined. It is known that ACTH is secreted rapidly, but how it becomes effective in the treatment of a wide variety of conditions is still unsolved. Already determined, however, are the following changes. Adrenal cortical stimulation has a marked effect on the entire blood building system. The eosinophil count decreases rapidly. The lymphocyte count, although a less sensitive indicator, will also drop. The polymorphonuclear cell count rises 50 to 100 per cent above the base line level. The platelet count is apt to rise but the red blood count will probably remain stationary. Other blood changes are also recorded, but these are generally abnormal conditions which tend to become normal as the disease subsides.

The renal threshold is decreased when the adrenal gland is stimulated by ACTH. It has also been suggested that the enzyme system may be altered. A patient may have pneumonia without fever and without clinical evidence of such an infection. There are recorded examples of persons who are sensitive to specific antigens or drugs who may take these without harmful effect if accompanied with ACTH. This applies also to the use of chemicals such as iodine, etc. The administration of ACTH inhibits acute inflammatory reactions from almost any cause. It inhibits fever and pain and is generally supposed to perform other equally sensational services.

On the other side of the picture, and much less publicized, is the fact that many conditions recur to their previous severity immediately upon the cessation of the drug. ACTH is contraindicated in the presence of hypertension. It has a profound effect upon carbohydrate metabolism and should be used with great care, if at all, in patients who have diabetes. Patients with chronic nephritis should not be given ACTH because of the fluid retention that may occur, and for the same reason it is contraindicated in cases of congestive heart failure. Authors have reported alteration of cerebral function in patients receiving ACTH and suggest it should not be used for patients with psychoses. Those, to mention only a few of the many conditions in which the use of the drug is hazardous, should be sufficient to indicate caution in the introduction of ACTH for general use.

Since ACTH, for the present at least, would be limited in its use to hospitalized patients, it would seem wise that hospital staffs begin now to consider this problem and to prepare for their respective hospitals a sound policy regarding the administration

of the drug. Ample provision should be available for laboratory analysis of the patient throughout the course of treatment and proper control measures employed. It might be recommended that hospital staffs and county medical societies present scientific papers on this subject to give each physician a thorough understanding of its uses and dangers. Bibliographies are rapidly being enlarged to where considerable material is already available for anyone who wishes to prepare a paper on this subject.

### The Fight Against Political Medicine

Although physicians are rightfully jubilant over the defeat of the President's Reorganization Plan No. 27 by a wide margin, the fact that the proposal came up for decision again this year indicates that he, and many others in Washington, intend to keep battering at both the back and front doors of the medical profession until they gain entrance.

The front door approach would be through the enactment of National Health Insurance, which so far has been more a possibility than a probability. So, feeling that the back door might not be so closely guarded, the President, a year ago, introduced Reorganization Plan No. 1, providing for a Department of Welfare in the Cabinet which would administer affairs of health. That measure, which would have become effective unless one house of Congress moved to reject it, was killed by the Senate with 11 votes to spare.

Although that was a defeat for the President, it was not a crushing blow. He regrouped his forces and this year introduced Reorganization Plan No. 27, which would create a Department of Health, Education and Security. But this year's combination package was less tempting than the first offer, and the House of Representatives disposed of it decisively, 249 voting against it and only 71 approving. Among those rejecting the proposal were the six Representatives from Kansas, Congressmen Cole, Hope, Meyer, Rees, Scrivner and Smith.

The message of the President transmitting Plan No. 27 included a statement that the main feature of the 1949 plan which the Senate found objectionable, that professional judgment would be subject to nonprofessional domination, had been eliminated on this attempt. However, many in Congress and countless others throughout the nation saw added federal domination in the creation of a triple department. The plan provided for appointment of a Secretary of Health, Education and Security with an Under Secretary and an Assistant Secretary as top assistants. However, there was no requirement that any one of the three be a physician.

Senator Taft, in opposing the measure, compared the plan with that proposed by the Hoover Commis-

sion, establishment of a Department of Education and Security and an *entirely separate* Medical Administration. "The welfare people, like Oscar Ewing," he said, "want to run health as a kind of welfare service. The doctors and others feel that medical care and health is a special subject, which ought to be dealt with by people expert in the health field and not subject to welfare direction."

Enthusiastic approval of the measure was voiced by Oscar Ewing, who hoped to achieve Cabinet status by its adoption. Without referring to those persons who would administer the plan, he said, "To isolate our great programs of medical research and preventive medicine from federal agencies responsible for programs in fields of social security, welfare, vocational rehabilitation and education would greatly weaken the effectiveness of all these programs."

But arguments for and against this particular plan are no longer effective. The issue is dead for the present. It may recur later in a different guise, but the possibilities for its success are lessened with each attack that fails. A careful watch of both front and back doors must be maintained.

#### Kansas City Clinical Society to Meet

The 28th annual fall conference of the Kansas City Southwest Clinical Society will be held in Kansas City, Missouri, October 2-5, inclusive. Fifteen well known physicians will present the scientific program, and two lay speakers, Clem Whitaker and Leone Baxter, directors of the national educational campaign of the American Medical Association, will also appear on the program.

Scientific speakers who will take part are: Dr. Joseph S. Barr, orthopedic surgery; Dr. Brian B. Blades, surgery; Dr. Edward W. Boland, medicine; Dr. William L. Bradford, pediatrics; Dr. Edwin N. Broyles, otolaryngology; Dr. Paul R. Cannon, pathology; Dr. Bayard Carter, obstetrics and gynecology; Dr. Arthur Grollman, medicine; Dr. Elmer Hess, urology; Dr. Charles L. Martin, radiology; Dr. Alton Ochsner, surgery; Dr. Herman E. Pearse, surgery; Dr. F. E. Seneary, dermatology; Dr. Dwight L. Wilbur, medicine; Dr. Irving S. Wright, medicine.

#### A.M.A. Meets in San Francisco

The annual meeting of the American Medical Association was held at San Francisco, June 26-30, with a total registration of 23,655. That attendance includes 10,119 fellows and members, with 56 present from Kansas. Official delegates from this state were Dr. John M. Porter, Concordia, and Dr. L. S. Nelson, Salina. Dr. Porter served as a member of the Committee on Executive Session.

Dr. Elmer L. Henderson, Louisville, Kentucky, was installed as president for the 1950-1951 year.

Among officers chosen by the House of Delegates were Dr. John W. Cline, San Francisco, president-elect; Dr. R. B. Robins, Camden, Arkansas, vice president; Dr. George F. Lull, Chicago, secretary; Dr. J. J. Moore, Chicago, treasurer; Dr. F. F. Borzell, Philadelphia, speaker of the House of Delegates; Dr. James R. Reuling, Bayside, New York, vice speaker; Dr. Leonard Larson, Bismarck, North Dakota, and Dr. Thomas P. Murdock, Meriden, Connecticut, to the Board of Trustees.

Dues for 1951 were set at \$25 by the House of Delegates. That membership fee will include subscription to the Journal of the A.M.A.

Fellowship in the scientific assembly was preserved and fellowship dues were set by the Board of Trustees at \$2.00 per year. Fellows may elect to take a special journal in lieu of the Journal of the A.M.A., which they would ordinarily receive as members. This privilege is not extended to members who are not fellows in the scientific assembly.

The 1950 interim meeting of the A.M.A. will be held December 5-8, in Cleveland, Ohio.

#### Grant to K.U. Medical School

The postgraduate program of the University of Kansas School of Medicine received impetus last month when a large eastern foundation announced plans to give the school financial assistance. An immediate grant of \$150,000 was pledged toward the erection of a building, with annual grants in the future for administration and teaching.

The \$150,000 grant was immediately matched by another \$150,000 given by business and industrial leaders in greater Kansas City and by the Kansas University Endowment Association. With the addition of other funds, the building will be constructed in conjunction with the proposed student union building and Battenfeld Memorial auditorium.

The postgraduate program will be expanded to include four projects:

1. Expansion of the circuit program. Teams of doctors now conduct lectures in eight Kansas cities once a month, bringing the latest developments in medicine to doctors in rural areas. Other states will be included.

2. Expansion of refresher courses at the University of Kansas Medical Center. More will be held.

3. Regional integration of certain existing hospital facilities for teaching purposes.

4. A demonstration program in the field of practical nursing, including setting up a model curriculum.

The new building will provide living quarters, a dining room and administration offices for visiting doctors.



---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the 12th of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### Political Propaganda

The Democratic National Committee has served notice that the adoption of socialized medicine will be one of its major objectives. A few things must be clearly understood at the outset of this discussion. There are many Democrats who do not favor this program, just as there are many Republicans who do favor this program. It is not known at this time whether the Republican Party intends to take a similar stand or any stand on this issue.

A press release from William M. Boyle, Jr., national committee chairman for the Democratic Party, recently declared that compulsory health insurance would receive top billing for the fall campaign. He served notice that this would be an all-out battle against the doctors down to the precincts.

Mr. Boyle's threat has so far produced a pamphlet prepared and distributed by the Democratic National Committee entitled "Better Medical Care That You Can Afford." This is designed for easy reading and for mass distribution. Each page is illustrated with diagrams and pictures. The wording is simple, the implications direct. The introduction says, "This is a brief but complete picture of the President's National Health Program. It tells the facts about national health insurance and shows how and why it is one necessary part of a well-rounded proposal through which the whole nation can get better medical care that you can afford."

This pamphlet is a public statement to the voters of this nation, and as such it is presumed that republication of the material is permissible. This message will eventually reach millions of voters and it was felt that the doctors of Kansas should have knowledge of this material in the event that patients began asking questions.

Note in the material quoted below that the socialized medicine program is constantly referred to as insurance and that taxes become premiums. There is the bald statement that local and not federal control would operate the plan, that voluntary programs have failed because of their high cost, that under the government program no worker would pay more than \$6.00 a month, that the President's plan would remove the "dollar barrier" from the present system of medical care. This is propaganda of a

high order put out on a national scale. It should be carefully read by every doctor.

The text of the pamphlet follows:

"The U.S.A. has good medical care and public health services, good hospitals and clinics and medical schools, good doctors, dentists, nurses, sanitary engineers and other health workers. But did YOU ever have a sick child—with the nearest doctor miles away? Did YOU ever put off going to the doctor, or lie in a hospital bed and worry—because medical bills come so high?

"These things are happening every day to millions of Americans because our medical care is spotty, unevenly located—too few doctors and nurses, too few hospitals and health centers in most small towns and in the country—and because—even with medical care nearby, as in our big cities, too many people go without the medical care they need BECAUSE THEY CANNOT AFFORD IT.

"So most Americans have learned the hard way that sickness is costly and that health care and preventive medicine is a GOOD INVESTMENT, worth working for, with real teamwork in our home towns, our states and our nation.

"The President has proposed a program so that we can all work together to do two things—to get more medical facilities; to get rid of the dollar barrier that keeps patients from doctors.

"The President's plan calls for: More medical education through government aid ... more medical research through additional grants ... more hospitals and health centers through increasing federal financial aid ... more local public health work through increasing present government grants to the states ... more health protection for babies and children...

"All this will go a long way toward strengthening the ranks of our doctors and other health experts and providing the hospitals and equipment they need to work with.

"But medical care will not be shared fairly while the dollar barrier still stands. What can we do about that? The President proposes a common sense plan—remove the dollar barrier by everybody paying his share of the cost of medical care in small, regular payments.

"This is not an untried plan. It's just one more way of using the insurance principle—like accident or life insurance. It's also like social security, through which a worker provides job insurance and old-age benefits for himself, and protection for his children if he should die.

"Health insurance would be paid for the way workers now pay old age and survivors insurance premiums or as railway workers pay into the rail-

road retirement fund. A worker would pay 1½ per cent of earnings under \$400 per month. No worker would pay more than \$6.00 a month. Self-employed persons could be covered, paying only slightly more. It is paying for medical care on the principle of insurance on the installment plan. Employers would match premiums paid by people on their pay-roll.

"You could budget doctor bills. With this kind of insurance, you wouldn't have to meet medical bills at the worst possible time—when sickness strikes and you are least able to pay. Instead you could budget your medical expense, because you would pay a small regular amount out of each pay envelope.

"To spread the cost widely and keep operating expenses low, there would be a national health insurance fund in the U. S. Treasury. You would pay your premiums into this trust fund. From it funds would be transferred to your state, so that it could pay medical bills.

"Local control—your state—not Washington—would operate its own plan. And in your own community, home town people—including doctors and hospital heads—would keep arrangements for medical care in their own hands.

"You would choose your own doctor. You would not be assigned to a doctor. There would be no medical regimentation. But you wouldn't worry about fees. Your prepaid insurance payments would have taken care of them.

"The doctor would choose his patients. He would have the right to control his practice that he has now—but he would not have to worry about getting the bills due him paid. Your insurance would take care of that.

"Why do some people oppose it? Either because of self-interest or because they don't understand it. As a matter of fact nearly everyone in the U.S.A. wants more medical education and more doctors, more medical research, more hospitals and health centers, more community public health work, more health protection for children. And nearly everyone also agrees that the only way to pay for good medical care for everyone is to SPREAD the cost, to prepay the bill by insurance.

"Some people say—why can't voluntary insurance do the job? Voluntary plans HAVE helped. But they cannot really do the job because they charge a fixed premium without regard to income—and this is more than most people can pay; their operating costs are higher than national health insurance—with less money left for medical services; most of them don't provide such essential—but high-cost—services as doctors' home visits, laboratory tests, expensive medicines, or medical care for older people.

"NATIONAL HEALTH INSURANCE CAN DO THE JOB! You get the medical care you and your family need—and you pay for it while you are well and able to earn your salary. The doctor CAN give the kind of service he wants his patients to have—and his bills will be paid regularly without hardship on them.

"The doctor, and the whole health team, including YOU—as citizen and taxpayer—can work together for better health under the President's program—for more and better training and research, for more and better prevention, for more and better child health protection, for national health insurance.

"This all adds up to BETTER MEDICAL CARE THAT YOU CAN AFFORD."

The quoted material above will be distributed to people in all walks of life across the nation. It is designed by one political party to alter the present system of medical care. It was included in this series to give physicians this information and to enable them to reply intelligently to questions that may be asked on this subject. The answer has been given in other articles in this series, which will be continued in the future.

---

### Two Special Courses at K.U.

Seminars on two topics of unusual interest will be held this fall at the University of Kansas Medical Center, according to announcement by Harold G. Ingham, director of the extension program in medicine at the center.

The first seminar, on October 26, will be on the uses of ACTH and cortisone, which are to be released for the use of the medical profession generally on November 1. The topic of the second is "Medical Aspects of the Atomic Bomb," a course intended primarily to assist doctors in giving cooperation in civilian defense activities in case a war should develop and involve the use of atomic bombs. The second seminar will be held on November 2.

---

### CARE Book Fund

Gifts of 133 scientific and technical books valued at \$800 made up the initial shipment to the Pakistan-Indian area last month under the CARE program, supplementing shipments to other Asiatic and European countries. Books valued at \$160,000 have already been delivered to foreign educational institutions.

Donors of \$10 or more may designate a specific foreign institution to receive its contribution and may select the type of books to be sent. All books are English language text and reference works. Contributions may be sent to CARE, New York.



---

## BLUE SHIELD

---

### Processing of Blue Shield Cases

During the month of June Blue Shield received and handled 3,640 service reports on which physicians were paid \$149,844.76. Due to the gains in enrollment in which each succeeding year has seen the membership nearly doubled, the load of cases has been gradually increasing to the point where it is now a sizable operation in itself.

Perhaps participating physicians would be interested in seeing some of the steps which are taken in the processing of cases and particularly the method used to review the more unusual type of cases.

As soon as a service statement is received in the Blue Shield office the patient's membership is checked for eligibility of service; that is, the membership files are checked to determine whether or not the patient is a member and has paid current dues and to check the length of time in which the membership has been in effect. This latter point has a bearing in regard to eligibility for maternal benefits and tonsillectomies, both of which require waiting periods of eight months. Also the patient's record is checked to find out whether or not he has had any previous case experience.

When the question of eligibility has been settled, the cases received for the day are distributed to three members of the staff responsible for approval. These trained staff members decide all cases of a routine nature wherein the description of the procedure performed by the physician can be clearly tied in with the established payment schedule. For example, it would be routine to approve appendectomies, tonsillectomies, obstetrics, gall bladder operations, many gynecological procedures and a broad list of nearly 400 procedures which are clearly identified in the schedule of payments. Perhaps this group of routine cases accounts for 80 to 90 per cent of the case load. Thus the major part of the volume of work received each day is reviewed and approved within a period of not more than 48 hours after receipt.

The cases which have been approved are sent to the tabulating department where the information on the cases such as the code of the procedure, the amount to be paid, name and membership number of patient and code for the doctor is all punched into an I.B.M. tabulating card. Each day's work is balanced on machines and matched with the group of cases sent up for the day. These cases are then filed in what we refer to in office terminology as "the docs' box." (This, by the way, is the only time Blue Shield staff members refer to doctors as "docs.") At

the end of the month when all cases to be paid have been processed, the tabulating department runs off the amounts to be paid to each doctor on a remittance advice form. These amounts are checked against the actual cases held in the "docs' box." In this way a cross checking for errors is maintained.

### Difficult Cases

Presented above is a brief summary of the method of processing the normal or routine cases. However, approximately 10 per cent of the cases received cannot be decided or approved by the first review section. This group of cases is passed to a staff member whose training and experience qualify her for deciding the more unusual cases. Once such cases have been decided they, of course, are routed back into the routine and handled like the first group already discussed. A still smaller percentage of cases is referred to Mrs. Margaret Foster who has been in charge of case approval since the beginning of Blue Shield and who carries out the final screening job for all cases decided in the Blue Shield office. Quite a few of these are then returned to the routine after her decision.

### Case Review Committee

A still smaller percentage of cases does not fit any particular pattern and must receive individual consideration by physicians whose knowledge is necessary to make the decisions. To meet this need a group of Topeka physicians serves on a Blue Shield Case Review Committee. The present Case Review Committee is as follows: Dr. Henry S. Blake, surgeon; Dr. Dwight Lawson, internist; Dr. Leslie L. Saylor, surgeon; Dr. Richard Greer, internist; Dr. Charles S. Joss, surgeon; Dr. Homer L. Hiebert, radiologist; Dr. H. W. Powers, E.E.N.T.

Not all of the members of the Case Review Committee participate in each week's meeting but they rotate in order that the time of any one physician may not be too much involved with Blue Shield problems. The Case Review Committee considers from 20 to 30 cases each week. The types of cases which they generally consider consist of unusual procedures not classified in the payment schedule, cases involving multiple procedures, procedures in follow-up surgery, a great deal of orthopedic work and skin grafts.

The committee is also faced with making interpretations of the Blue Shield members' agreement in those areas where it is difficult to decide the Blue Shield obligation. For example, the Blue Shield agreement rules out removal of non-cancerous tumors of the skin. There are many instances where a physician is needed to decide whether or not tumors fall within this classification.

The biggest part of the job of the Case Review

Committee is the determination of the amount to be paid on unclassified procedures. This is a job which none of the participating physicians would covet since it inevitably involves some degree of arbitrary determination. The committee has the difficult charge of keeping Blue Shield payments on unusual cases in line with the general scale of payments for listed procedures. The decisions are made more difficult when participating physicians fail to give a careful description of the work performed. There are many cases where a superficial description might mean anything from a minor to a major procedure. Of course, when the case is not reasonably clear, the Case Review Committee requests additional information before making a decision. In any decision made, the Case Review Committee would be most thankful if any participating physician would write a rebuttal when he does not feel a fair decision has been made. While the percentage of cases involving individual consideration is small, the actual process of bringing these cases before the Case Review Committee inevitably involves some delay in payment. It is to be hoped that participating physicians will understand that a delay in payment is probably due to the fact that the case has required more than the customary routine.

Blue Shield makes its payment to physicians around the first of each month for all cases which have been processed and completed by the 20th or 21st of each month.

A more careful description of the work performed would be of tremendous value in expediting case handling.

### **Liaison With Bar Association**

Mr. G. L. Light of Liberal, president of the Bar Association of the State of Kansas, at the request of the Kansas Medical Society, appointed a seven-man committee on relations with the medical profession. The committee consists of Mr. Jack Copeland, St. John, chairman; Mr. Roy C. Davis, Hutchinson; Mr. Herbert Dietz, Great Bend; Mr. J. J. Mangan, Dodge City; Mr. Maurice A. Wildgen, Larned; Judge James H. Rexroad, Hutchinson; Mr. Walker W. Smith, Wichita.

It is envisioned that the major work of this committee will be with the Society's Committee on Mental Health. This committee has been working toward the formation of a new commitment law and sincerely appreciates the interest of the attorneys in this state in the preparation of such material that will be suitable for presentation to the legislature.

The legal committee is available, however, for utilization in other fields. This is another example of the Society's effort to cooperate more closely

with other professional groups and represents a step forward toward uniting the interests of the legal and medical professions.

### **Health Education Services**

Mrs. Bertha H. Campbell, director of Health Education Services for the Kansas State Board of Health, recently issued an annual report for the program she operates for the state. It is an impressive account of progress in the field of lay education covering a wide variety of topics.

By way of example, the free film lending library presented 8,137 film showings to an audience of 424,834 persons; 392,217 pieces of free literature were distributed to schools and individuals; 104 radio scripts were written and broadcast each week over five Kansas stations; more than 33,000 posters were sent out; the speaker's bureau of her staff made 302 talks to a total of 23,808 persons. Exhibits were produced and displayed in more than 100 meetings, including two state fairs. Venereal disease cards were produced and displayed in buses of nine Kansas cities, and many other services were rendered.

This health education project of the Kansas State Board of Health is a worth-while and valuable service to the people of this state which could be utilized without cost by physicians of Kansas for obtaining health material and programs for schools, clubs and individual use.

### **Blue Shield Relations Committee**

At the 1950 meeting of the Kansas Medical Society a resolution was passed which added the Blue Shield Relations Committee to the list of official standing committees. The following members have been appointed to serve in that capacity: District 1, Dr. Edwin T. Wulff, Atchison; District 2, Dr. W. L. Pratt, Leavenworth; District 3, Dr. Charles H. Miller, Parsons; District 4, Dr. Harold F. Spencer, Emporia; District 5, Dr. Leland F. Glaser, Hutchinson; District 6, Dr. G. G. Whitley, Douglass; District 7, Dr. Donald A. Bitzer, Washington; District 8, Dr. Leo J. Schaefer, Salina; District 9, Dr. Floyd L. Smith, Colby; District 10, Dr. L. W. Reynolds, Hays, chairman; District 11, Dr. L. G. Glenn, Protection; District 12, Dr. R. G. Klein, Dodge City.

### **Cancer Grant to K.U.**

A grant of \$17,820 for the evaluation and development of laboratory tests for cancer under the direction of Dr. R. E. Stowell and Dr. J. H. Hill at the University of Kansas Medical Center was approved last month by the National Cancer Institute. It is one of 21 grants which total \$352,800.



## Case Report From The University of Kansas Medical Center

## Disseminated Histoplasmosis—Death Due to Pulmonary Embolization

## Clinical Pathological Conference

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of medicine, otolaryngology, pathology, roentgenology, surgery, and the junior and senior classes of medical students.

## Case Presentation

G. P., a 69-year-old white male, was first admitted to K. U. Medical Center on December 13, 1949. His chief complaints were fatigue, weight loss, hoarseness, productive cough, and fever. He had been well until 1939, when increasing fatigue and cough developed. During the next 10 years he had a gradual increase in fatigue and productive cough. During this period he lost approximately 40 pounds. For three months prior to admission the patient had daily fever to as high as 103°F. and frequent night sweats. About two months prior to admission here he became extremely hoarse and was admitted to a local hospital. Two laryngeal biopsies were taken. These revealed chronic inflammatory tissue. Tuberculin skin test was negative; histoplasmin was positive. Histoplasmin complement fixation test at that time was four plus. Patient was admitted here for diagnosis.

Past and family histories were non-contributory.

System review: Anorexia was noted for about two years. For one year he had considerable difficulty voiding and had nocturia one to five times a night. He had also had bronchial asthma since childhood. There had been increasing impairment of hearing for a number of years.

Physical examination: Blood pressure was 100/80, pulse 80 and regular, rate 28. Temperature was 101.4°F. The patient was a well developed, poorly nourished white male appearing chronically ill and barely able to speak in a whisper. Eyes, ears, and nose were essentially negative except for moderate deafness. Indirect laryngoscopy revealed complete destruction of the right vocal cord by a granulomatous appearing lesion. Neck was negative. Chest was emphysematous, with impaired resonance in the interscapular areas and in the right base in mid-axillary line. Subcrepitant rales were heard in right mid-axillary line. Rectal examination revealed two plus hypertrophy of the prostate.

Laboratory examination: Complete blood count showed 5,030,000 red blood cells, 74 per cent hemoglobin, 7,800 white blood cells, 80 polys (66 filamented and 14 non-filamented), 16 lymphs, one eosinophile, one basophile, one monocyte. Urine showed acid reaction, specific gravity 1.020, albumin negative, sugar negative, and 6-8 pus cells

per high power field. Serology was negative. Chemistry showed N.P.N. 37.5, creatinine 1.2, sugar 75. Ten sputum examinations for acid fast and fungi were negative from December 14, 1949, to December 19, 1949. Four cultures were positive for histoplasma capsulatum. Tuberculin was negative, histoplasmin positive. Histoplasmin complement fixation was again four plus.

Hospital course: On admission the patient was started on 50,000 units crystallin penicillin every three hours and his temperature was normal on December 24, 1949. On December 15 there was dullness over the left lower lobe with bronchovesicular breathing and crackling rales. Penicillin was increased to 200,000 units every three hours. Daily elevation of temperature, however, continued. On December 17 the patient became unable to void and a retention catheter was inserted, 525 cc. of residual urine being obtained. Patient removed catheter and on the following day 700 cc. of residual urine was obtained. At this time both legs showed two plus pitting edema, were red but non-tender. Legs were elevated and hot packs applied. On the following day, edema and rales were absent. No thrombi were palpated. Elevation and packs were discontinued. On December 22, patient was started on sulfadiazine, grams 1.0 every three hours, and 2.5 mg. bacillomycin by aerosol inhalation. On December 26 the patient had moderate respiratory difficulty and chest was filled with ronchi throughout. A few fine crackling rales persisted in the right base. Liver was not palpable and no ankle edema was present. Aerosol bacillomycin was discontinued. On December 27 the patient suddenly became extremely cyanotic; pulse was 120 and blood pressure 80/60. Oxygen by nasal catheter was started and five cc. of coramine was given intravenously. Left chest was clear to percussion and auscultation. Moist rales were heard in the right base. Following coramine, the patient improved temporarily but again became very cyanotic and expired, heart ceasing before respiration.

Dr. Delp (Chairman): Are there any questions of Dr. Stockard?

Question: Did he ever have hemoptysis?

Dr. Stockard (Medicine Resident): No, no hemoptysis.

Question: Describe the sputum.

Dr. Stockard: The sputum was rather purulent.

Dr. Wilson (Hematology): Was any anticoagulant therapy given?

Dr. Stockard: No.

Dr. Cochran (Medicine): When was the electrocardiogram taken? I didn't notice.

Dr. Stockard: Previous to the acute episode.

Question: Was a Homans' sign noted?

Dr. Stockard: It was negative.

Question: What was the character of the fever which the patient ran?

Dr. Stockard: It was rather irregular; sometimes it was up all day and sometimes it was normal in the morning and came up in the afternoon.

Dr. Delp: Dr. Cochran, will you demonstrate the electrocardiogram which we have?

Dr. Cochran: The cardiogram shows two defects, one relatively minor. There is noted sinus rhythm, slightly prolonged PR interval and complete right bundle branch block. Unfortunately when a complete conduction defect is present, such as this right bundle branch block, it obscures the electrographic findings. However, the large size of that R wave still would raise the question of right ventricular enlargement.

Dr. McCarthy (Roentgenology): X-rays of this patient were made on two occasions. One was made on the 14th and one on the 24th, three days before he died. A nodular type of infiltration is seen involving only the upper lung on the right. Lateral views contribute nothing. In the interval from the 14th to the 24th there had been no appreciable change. The impression was only that we had a non-specific type of infiltration of the right upper lung. The remainder of the chest we considered free from disease. The cardiac shadow was practically normal.

Dr. Boley (Pathology): I would like to know how large those lesions are in the chest x-rays.

Dr. McCarthy: It is difficult to postulate that. I estimate the nodules to measure possibly two to three millimeters in diameter.

Dr. Delp: Mr. Holt, we would like to have your discussion of this case.

Mr. Holt (Student): In a patient that presents the symptoms that were seen here when the patient was first examined, I think one would most likely think of a tuberculous process. Against this diagnosis must be included these points. There were no tubercle bacilli found in the sputum, lack of a history of hemoptysis, and the negative skin test.

In considering pulmonary neoplasm, hemoptysis is a fairly common finding. Pain which is often associated with a pulmonary neoplasm occurs rather early and varying symptoms will result from pressure of the mass on the structures. I didn't get the history of pressure symptoms. Dyspnea, a fairly early and common symptom as a result of the bronchial obstruction, did not appear.

There is no history of cough or large amounts of sputum to suggest bronchiectasis. This patient did have the lung findings of emphysema that were probably due to the long-standing bronchial asthma. We must consider the mycotic infections such as actinomycosis, histoplasmosis, blastomycosis.

Pointing to the diagnosis of histoplasmosis is the positive skin test and culture.

As to the actual cause of death of this patient, I believe from the history he had a phlebothrombosis with resultant pulmonary embolism.

Dr. Delp: Mr. Holt, how would you classify this—assuming that it is histoplasmosis? Do you have

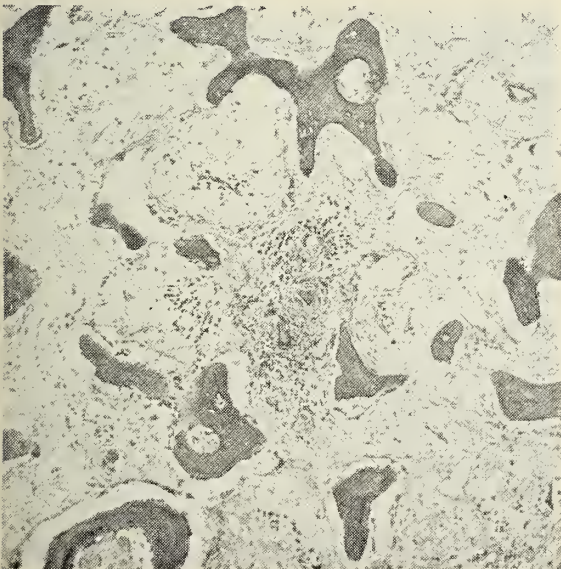


Figure 1. Granulomatous focus in bone marrow.

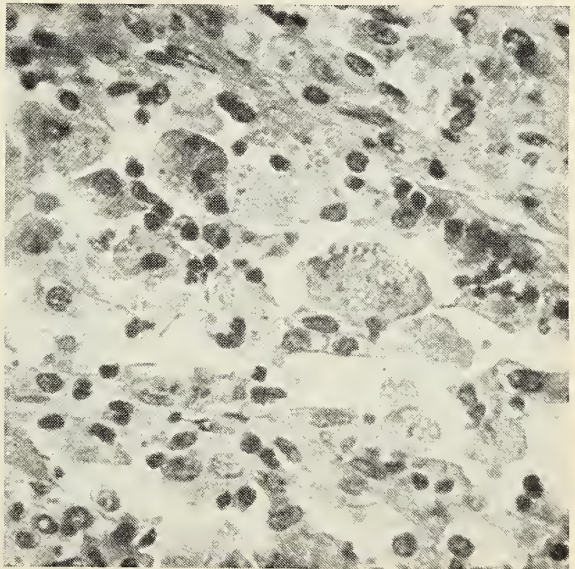


Figure 2. Macrophages with phagocytized organisms in adrenal gland.



any clinical classification that you would apply to it?

Mr. Holt: I would think of it as the disseminated form, in contradistinction to a localized, primary form.

Dr. Delp: Do you think that people live with the disseminated form of histoplasmosis—or do they invariably succumb?

Mr. Holt: I think they invariably succumb.

Dr. Delp: Mr. Coates, what do you think was the cause of death?

Mr. Coates (Student): I think it was due to pulmonary embolus with acute cor pulmonale.

Dr. Delp: Dr. Roberts, one or two questions. Do you think that this man on the morning of his death could have developed a pharyngeal edema of sufficient degree to cause death?

Dr. Roberts (Otolaryngology): The patient under discussion today I saw two or three times. I think that a pharyngeal edema is a very strong possibility.

Dr. Delp: This patient was receiving bacillomycin. How was it being given?

Dr. Stockard: By aerosol. We started him first with local irrigation, local spray on his larynx. He had no difficulties with that so we started him on aerosol.

Dr. Delp: Did it produce any apparent irritation of the respiratory tract?

Dr. Stockard: No. It had never been used that way before and we checked thinking it might.

Dr. Delp: Did it produce anything similar to pulmonary edema?

Dr. Stockard: No.

Dr. Allen (Medicine): I think the most likely cause of death was pulmonary embolism. With an antecedent history of swelling of the extremities and redness, I suppose that pulmonary embolization would be the first choice.

Dr. Delp: Dr. Cochran, they reported in the history that this man had dyspnea for a considerable period of time. He had asthma apparently all of his life. Would you think that from the electrocardiographic standpoint this man had arteriosclerotic heart disease or would you be willing to

render some other possible explanation for his EKG changes?

Dr. Cochran: As I inferred when we were looking at the tracing, complete right bundle branch block obscures the findings of right ventricular enlargement, which we might expect if this patient had developed chronic cor pulmonale over a long period from chronic emphysema and asthma. The right bundle branch block can simply be a part of arteriosclerotic heart disease. It does tend to occur somewhat more frequently in diseases of the right ventricle. But in any individual case that is of no help. There is a suggestion because of the rather large deflection present that right ventricular enlargement may be present as well as bundle branch block. I think that is about as far as I can go. It is not diagnostic by any means. If right ventricular enlargement is present, which I think, I'll go along with the idea that the patient had had a long standing emphysema, long enough to produce chronic cor pulmonale.

Dr. Delp: Well now, Doctor, do you think that the method of this man's exodus would be unusual for a patient with chronic cor pulmonale?

Dr. Cochran: This is a little rapid. How long did he live after his first seizure?

Dr. Stockard: About 20 minutes.

Dr. Cochran: That is a little more rapid than I have seen patients die as a rule from chronic cor pulmonale—that is of the type associated with emphysema and asthma. Of the type associated with pulmonary embolism it is compatible.

Dr. Delp: Then you are in favor of pulmonary embolization as the cause of death?

Dr. Cochran: Yes. It is a little rapid also for the average myocardial infarction. I would agree with Dr. Allen's interpretation of the antecedent history of thrombophlebitis. I think our best bet would be massive pulmonary embolism.

Dr. Delp: Dr. Friessen, from this information at hand, why do you think the patient died?

Dr. Friessen: I will have to agree with those who have seen the patient and have given their views. Pulmonary embolism seems to be most likely.

Dr. Delp: Dr. Gibson, will you give us the gross pathology?

Dr. Gibson: As to the actual cause of death of this patient, there was a long thrombus in the left iliac vein and emboli in both main pulmonary arteries. He also had acute dilatation of the heart, his myocardium showed nothing abnormal grossly and his pulmonary arteries were remarkably free of sclerotic plaques for a man of 69.

The other findings were as follows: At the base of the tongue near the epiglottis on each side there



Figure 3. Drawing showing a normal larynx compared with the diseased larynx.

was an irregular superficial ulceration measuring  $2\frac{1}{2}$  cm. in diameter. There was also a superficial depressed ulceration on the tracheal aspect of the epiglottis measuring  $1\frac{1}{2}$  cm. in diameter. The vocal cords were scarred and distorted and presented superficial necrosis. Edema in this area was not marked at postmortem. There were multiple small circumscribed umbilicated granulomatous lesions that were often ulcerated. They were present throughout the larynx, trachea, and extended into the main bronchial branches.

In the pleural cavities, there were 150 cc. fluid on each side and fibrous exudate on the lateral aspect of both lungs. The lungs were both heavy and doughy in consistency and presented areas of marginal emphysema throughout. On cut section, the lungs were moderately wet and had a fine granular appearance with increased consistency throughout. There were no areas of focal consolidation nor focal atelectasis seen. In the liver were a few small, indistinct, poorly circumscribed white nodules scattered throughout. The spleen was large and fibrotic.

A small cortical infarct was found in one kidney. Both adrenals were extensively infiltrated with grayish-white tissue that completely replaced the medullary and cortical tissue in many areas. The largest such mass measured three cm. in diameter. There was marked simple necrosis in some of the larger masses of soft hemorrhage. In the gastrointestinal tract, multiple small submucosal nodules were scattered throughout. These were approximately  $\frac{1}{2}$  cm. in diameter and were present in the wall linings of the esophagus, the stomach, throughout the small and large intestine. In addition multiple, solitary, circumscribed, umbilicated as well as ulcerated lesions were present chiefly in the terminal ileum of the cecum. These were sometimes hemorrhagic and varied between one-half to one cm. in diameter. The bladder mucosa was somewhat hemorrhagic and there were a few small ulcerations scattered throughout. The mediastinal and mesenteric lymph nodes were all large, varying between one-half to  $2\frac{1}{2}$  cm. in diameter, quite hemorrhagic, and many of them exhibited small areas of central necrosis.

Our gross diagnoses then were thrombosis of the left iliac vein with pulmonary emboli, acute dilatation of the heart, and granulomatous lesions of the base of the tongue, the epiglottis, the larynx, trachea, bronchi, lungs, adrenals, gastro-intestinal tract, mesenteric and mediastinal lymph nodes, and possibly also the spleen and liver. Microscopically, these lesions were characteristic of histoplasmosis of disseminated character.

Dr. Wahl (Pathology): There is one thing I want to call your attention to. This man died from a pulmonary embolism. Histoplasmosis did not kill

him directly, although indirectly it probably was a factor. One of these histoplasmodic granulomas that was in the wall of the blood vessel probably precipitated the thrombosis of the iliac vein. So indirectly it was responsible for the patient's death. Another thing, here we have granulomatous lesions in which the changes are in the lymph glands, the adrenal glands, and in the respiratory and intestinal epithelium of the intestinal tract and not primarily in the lungs except the bronchi and the larynx. What I wish to emphasize is that pulmonary lesions were only minor. The pulmonary lesions are no more extensive than those seen in the spleen or in the liver. The larger tubercles were, strange to say, in the lymph nodes and in the adrenal glands.

#### Summary

In this case we encounter a relatively uncommon disease, the diagnosis of which carries almost the same gloomy outlook as that associated with neoplastic malignancy. Here, however, the fatal termination resulted from commonplace pulmonary embolism secondary to thrombophlebitis. A long period of observation followed by pathological confirmation of widespread seeding of the granulomatous lesions gives further proof that disseminated histoplasmosis is not necessarily a rapidly fatal disease. The positive histoplasmin skin test fortified by positive complement fixation tests, positive sputum cultures and finally the microscopic pathological lesions presents a firm chain of diagnostic evidence.

---

#### Cancer Research Grant to K.U.

A research grant of \$6,210 for the study of neoplasia by electron microscopy was awarded the University of Kansas Medical Center last month as part of a total of \$1,160,818 allotted by the Public Health Service for the nation-wide attack on cancer. Dr. Robert E. Stowell will direct the project at the Kansas school.

---

#### Survey of Blood Banks

A recent survey of blood banks in this country, made by the A.M.A.'s Bureau of Medical Economic Research, showed that 1,636 blood banks and centers are now in operation. They are located in 951 cities of the United States and carry a current inventory of 76,000 pints. About 61,300 pints are in hospital blood banks, 6,100 are in Red Cross regional centers and 8,100 are in non-hospital banks.

Hospital blood banks issue 2.1 million pints, or 60 per cent, of the 3.5 million pints of blood used yearly. Red Cross centers issue 12 per cent, and non-hospital blood banks issue eight per cent of the amount used annually.



---

## KANSAS STATE BOARD OF HEALTH

---

### Laboratory Diagnosis of Viral and Rickettsial Diseases\*

Increasing requests from Kansas physicians for a laboratory diagnostic aid in viral and rickettsial diseases have made it imperative that the Kansas State Board of Health Laboratories include a laboratory method applicable to the diagnosis of these diseases. With this thought in mind—that of rendering adequate service to the physicians of Kansas in their diagnosis of communicable diseases—the Kansas State Board of Health Laboratories last year established a complement fixation procedure in their routine tests for the following rickettsial diseases: Rocky Mountain spotted fever, Q fever, typhus, and rickettsialpox, and for the following viral diseases: western equine encephalomyelitis, St. Louis encephalitis, lymphocytic choriomeningitis, and mumps.

A laboratory procedure for these viral diseases seemed particularly indicated last summer during the poliomyelitis outbreak as these neurotropic viral diseases may on occasion resemble poliomyelitis. The limited physical facilities of the state laboratories made it necessary to adopt the complement fixation test as a diagnostic procedure. In other words, at present it is not possible to do virus isolation and identification and neutralization tests as we do not have a suitable building for such work. However, since the Kolmer complement fixation test is used routinely in the state laboratory, the establishment of a complement fixation procedure for the viral and rickettsial diseases was then altogether logical and feasible. Even after many years experience with complement fixation the establishment of a reliable method for the viral and rickettsial diseases was not without some difficulty.

One of the greatest difficulties in performing a reliable complement fixation test for viral and rickettsial diseases is finding a suitable technique or method. At present different laboratories are using different techniques. In reviewing the methods used in other laboratories one finds all manner of variation in the units of reagents used. The antigen is being used in one up to four units, the complement is used in  $1\frac{1}{3}$  up to two full units, the hemolysin is used in two or three units, and either a two per cent or three per cent sheep cell suspension is used.

Another important variant encountered is the fixation time. Some laboratories employ one-half hour to one hour fixation at  $37^{\circ}\text{C}$ , while others use

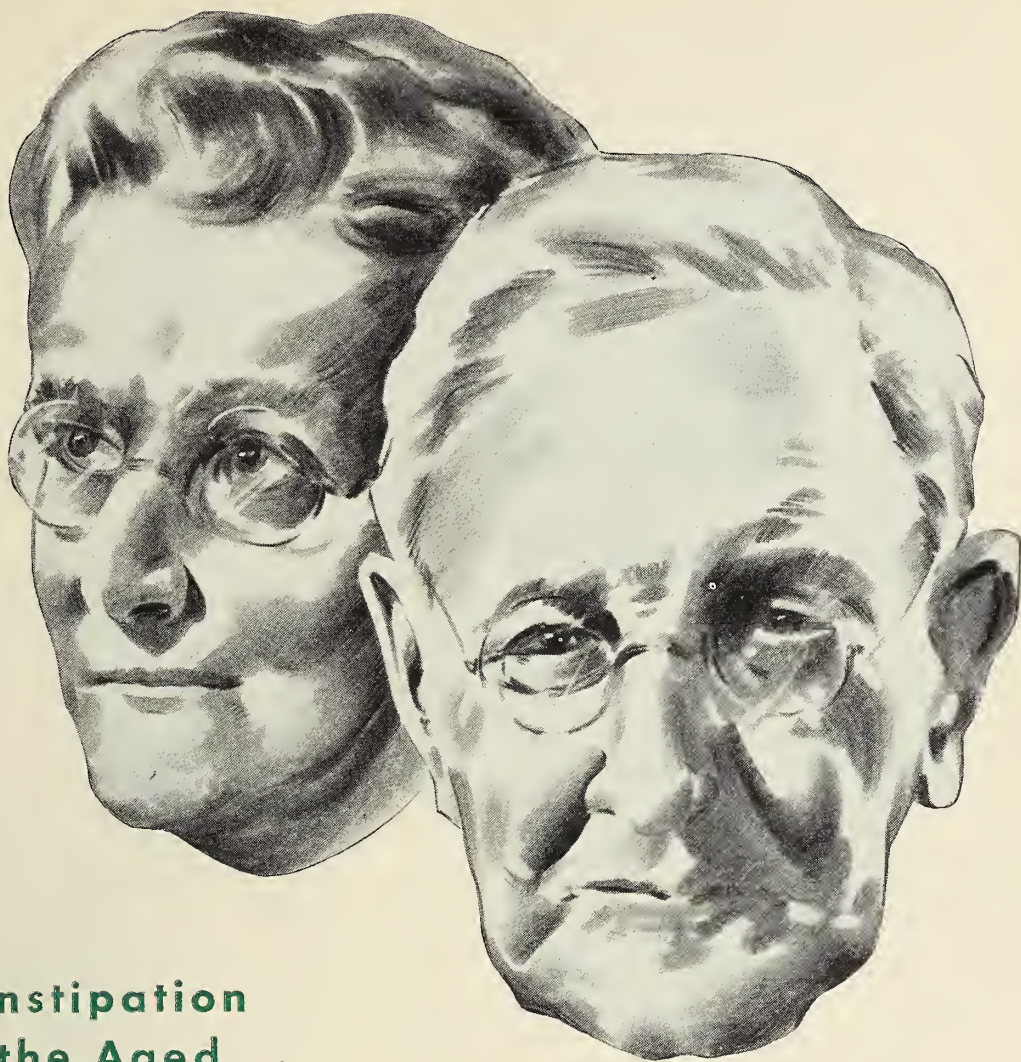
over-night icebox fixation. Complement is titrated either in the presence or absence of antigen. All of these variations will have a pronounced effect on the sensitivity and specificity of the test. At present there is great need to evaluate these methods by parallel studies to establish the desired level of sensitivity and specificity. This type of evaluation will probably follow the development of more specific antigens. And since there are no standards, it is easily seen that anyone undertaking complement fixation testing for viral and rickettsial diseases must have a good basic knowledge of the complement fixation test as such in order to properly appraise the various methods.

Securing satisfactory antigens is another problem which must be overcome in the performance of a reliable complement fixation test for viral and rickettsial diseases. At present viral and rickettsial antigens are not standardized; in other words the manufacturers do not know where to set their sensitivity level. In our hands some antigens have proven unreliable, some have become anti-complementary in a very short time, and in others the antigenic titer is too low. It is necessary to do a preliminary test on antigens with a known positive and negative serum. In reviewing the literature a divergency of opinion is found regarding the specificity of Rocky Mountain spotted fever antigen and rickettsialpox antigen. Some observers maintain there is marked crossing between spotted fever and rickettsialpox in which the serum from a case of spotted fever may give a higher titer with rickettsialpox antigen than with spotted fever antigen.

Before anyone can undertake to do a reliable complement fixation test for viral and rickettsial diseases it is necessary to obtain and keep positive serum controls for the respective antigens to be used. This is relatively easy for typhus, Rocky Mountain spotted fever, and Q fever; these sera can be obtained from several sources. Immediately after receiving the sera 0.2 cc. amounts are tubed and stored in the deep-freeze. Greater difficulty is encountered in securing and keeping positive sera for the viral diseases; either the sera would have no titer or would be anticomplementary. Eventually lyophilized, positive sera has been obtained which has a good titer and keeps well in the deep-freeze.

The importance of satisfactory specimens cannot be emphasized too much in a discussion of dependable complement fixation tests for these diseases. Single tests for complement fixation antibodies are of little value because of the presence of such antibodies in many individuals. Results of serologic tests are of significance only when it can be demonstrated that the antibody antigen has increased between the onset of illness and the stage of convalescence. It is therefore essential that the lab-

\*By Cecilia Jones, A.B., Senior Serologist; Frank Victor, B.S., Principal Serologist; and Charles A. Hunter, Ph.D., Director of Public Health Laboratories, Division of Public Health Laboratories, Kansas State Board of Health.



## Constipation in the Aged...

The commonly encountered constipation of the older age group may result from reduced activity, lack of appetite for bulk-producing foods and inadequate ingestion of fluids.

By providing hydrophilic "smoothage" and gently distending bulk, Metamucil encourages normal physiologic evacuation without straining or irritation.



**METAMUCIL<sup>®</sup>** is the highly refined mucilloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. G. D. Searle & Co., Chicago 80, Illinois.



oratory have at least two specimens: the first as soon after onset as possible, the second about two weeks after onset or as the suspected disease indicates. It has been found that this information is not well established among physicians. It is with the purpose of better serving the medical profession that a handbook containing this information is being prepared for distribution among the physicians of Kansas.

The complement fixation procedure now used in the state laboratories is according to the Bengston technique which employs four units of antigen and two full units of complement. Fixation takes place during one hour's incubation at 37°C. This technique is not as sensitive as other methods tried by us, but it is believed whatever sensitivity is lost is more than compensated by the more specific results obtained.

Since the hemolytic or indicating system is of utmost importance in any reliable complement fixation test, it is desirable to discuss our source and preparation of the reagents included in this system.

*Complement.* Complement is obtained by bleeding 25 to 30 guinea pigs from the heart; the blood is allowed to remain at room temperature until well clotted, after which it is placed in the refrigerator for about two hours to permit further expression of serum from the clots. The serum is then collected, centrifuged to remove the cells, and pooled. The pooled serum or complement is tubed in five cc. portions and stored in the deep-freeze. It has been found that complement so treated and stored remains usable for at least a week.

Sera from such a large number of guinea pigs proved to be satisfactory since it does not show nonspecific fixability, does not contain antish sheep hemolysin, and does have good hemolytic activity. The complement is titrated both with and without the presence of antigen. Some workers observe the complement titration is now altered appreciably by the presence of antigen. It has been our experience that antigens vary the hemolytic effect of complement to a marked degree; for example, the Rocky Mountain spotted fever antigens studied actually enhance the hemolytic effect of complement, which is shown by the fact complement titrated in the presence of Rocky Mountain spotted fever antigen will give a higher reading than complement titrated without this antigen, whereas the typhus antigen studied lowers the titer of the complement to a noticeable degree. The range of complement used has been from 1-18.2 up to 1-30.3; it is our opinion that complement should not be used in a dilution lower than 1-18.2 or higher than 1-30.3.

*Hemolysin.* The hemolysin used is prepared in our laboratories by inoculating rabbits with washed sheep cells. It is preserved with an equal volume of glycerine. The hemolysin we are currently using has a titer of 1-10,000.

*Sheep's Red Blood Cells.* Recently it has been pointed out that cells from individual sheep may vary in resistance to complement activity from a negligible degree to a point at which they are entirely unsuitable. Experience has proven that the reliability of the complement fixation test depends largely on the quality of the sheep red cells. Our method for obtaining quality sheep red cells is as follows: red cells from several sheep are pre-tested for cell resistance to complement activity, and the sheep having suitable red cells is then procured; this sheep is bled aseptically from the jugular vein, at which time enough blood is taken to supply all the red cells needed for a month.

In many laboratories the two per cent cell suspension is never questioned for accuracy. Observation has shown it is not always possible to obtain a two per cent cell suspension by merely reading the volume of packed cells in a conical, graduated centrifuge tube and making up the cell suspension accordingly. The cell suspension is always checked by taking out two 15 cc. portions of the suspension and placing them in two conical, graduated centrifuge tubes. These two samples are then centrifuged at 2,000 rpm. for 10 minutes. If then the volume of packed cells is 0.3 cc. for 15 cc. of the suspension, a two per cent suspension is assured; if not, a correction can be made by the addition or subtraction of saline from the suspension to be used.

*Physiological Salt Solution.* The physiological saline is one of the most important and least emphasized reagents used in the complement fixation test. The sodium chloride must meet A.C.S. specifications. There are some variations in brands; in our hands Mallinckrodt's analytic reagent grade sodium chloride has been uniformly satisfactory.

Distilled water is the greatest variable encountered in this reagent; it must (1) be free from chlorine, (2) have a pH of approximately six, and (3) be free from volatile organic compounds. To obtain such quality distilled water it is necessary to double distill and collect the fraction which meets these specifications. The addition of 0.1 gm. magnesium sulphate per liter is also required. The use of saline not meeting these specifications will result in lowered hemolytic activity of the complement, which will be particularly noticeable in the hemolysin and complement titration. This would appear to indicate poor quality complement when in reality the saline is at fault. The prepara-

*There  
is no  
better  
product..*

**Ramses**  
TRADE MARK REG. U. S. PAT. OFF.

## VAGINAL JELLY



meets or exceeds every requirement of the Advisory Committee on Contraceptives of the American Medical Association. It is never advertised to the laity and is suggested for use only under the guidance of the physician.

The crystal clarity, agreeable odor, and elegant appearance of "RAMSES"\* Vaginal Jelly† make it esthetically acceptable even to the most fastidious patients. As it is nonirritating, nonstaining, and nontoxic, no untoward effects follow its use.

"RAMSES" Vaginal Jelly is available in regular- and large-size tubes through any reliable prescription pharmacy. Literature and professional samples will be sent to physicians on request.



\*The word "RAMSES" is a registered trademark of Julius Schmid, Inc. †Active ingredients: Dodecaethyleneglycol Monolaurate 5%; Baric Acid 1%; Alcahal 5%.

gynecological division

**Julius Schmid, Inc.**  
423 West 55th Street, New York 19, New York  
quality first since 1883





tion of the cell suspension and physiological salt solution are usually considered a simple matter and are not given the attention they deserve. These two reagents are quite often at fault and should be checked for quality and accuracy to assure maintenance of a sensitivity level whereby one may expect comparable results.

#### Report of Tests and Results

*Serologic Survey of Q fever* in veterinary students at Kansas State College was undertaken because of the previous occurrence of Q fever among individuals working with livestock. Of the 254 sera from veterinary students examined for Q fever, 251 of these were not reactive in the 1:4 dilution. Three (1.2 per cent) of this group had complement fixing antibodies; two had a titer of 16 and one had a titer of eight. As yet no clinical history has been obtained from the three students showing complement fixing antibodies. It has been established that such antibodies persist for some time following illness proved to be Q fever; nevertheless, diagnostic significance cannot be attached since no data are available which will allow the assumption of any particular serum titer as being significant of a previous attack of Q fever.

*Rocky Mountain Spotted Fever.* Kansas is a state in which Rocky Mountain spotted fever is practically unknown. Until recently reported cases have been from individuals who had contracted the disease in other states. It seems unreasonable to assume that Rocky Mountain spotted fever cannot be contracted in Kansas since some of the transmitting vectors are found in this state. Agglutination tests using *Proteus* OX-19 as antigen have been run on more than 100,000 blood specimens which yielded the usual number of positive and negative results, yet among this large number of specimens not one clinical case was found. The Weil-Felix reaction using *Proteus* OX-19 as antigen is a nonspecific test giving uncertain results; it is a well established fact that the Weil-Felix reaction can give both positive and negative results in clinical cases of Rocky Mountain spotted fever, and positive results in cases which are not Rocky Mountain spotted fever. The complement fixation test, however, has a distinct advantage over the Weil-Felix reaction in that it is highly specific and may be used to differentiate Rocky Mountain spotted fever from murine typhus, epidemic typhus, and Q fever. The use of the complement fixation tests has discovered several cases in the last year. One case in particular had a low titer (1:80) with *Proteus* OX-19, but the complement fixation test for Rocky Mountain spotted fever was positive. It is possible that the low incidence of Rocky Mountain spotted fever may

be due to the inability of the agglutination test to give a positive reaction in early clinical cases. Bengston and Topping (1942) have reported the complement fixation test is frequently positive before the Weil-Felix reaction.

*Report of a Clinical Case.* Last fall a specimen of blood was received in our laboratories with a note from the physician stating the patient was very ill, had a high temperature—tentative diagnosis, septicemia. Agglutination tests were done on this specimen; the Weil-Felix test gave a titer of 1:640. Complement fixation tests for typhus murine, Q fever, and Rocky Mountain spotted fever were then set up; typhus murine and Q fever tests showed no reaction, and the Rocky Mountain spotted fever test gave a titer of 1:2,048. A duplicate specimen was sent to the Communicable Disease Center for checking; their results confirmed our complement fixation test with Rocky Mountain spotted fever, but at the same time their report was confusing when it showed an equally high titer with rickettsialpox antigen. The clinical history, supplied by the physician, revealed the patient had recently vacationed in the Ozarks and upon questioning recalled he had been bitten by a tick while there.

*Virus Tests.* During last year's poliomyelitis outbreak a number of specimens were received from cases in which the diagnosis was questionable. Complement fixation tests for mumps, western equine encephalomyelitis, St. Louis encephalitis, and lymphocytic choriomeningitis were done on these sera. None of the 41 specimens tested showed any reaction. Since these were single specimens taken at any time during the course of the disease, no particular significance can be attached to the results of these tests. These studies are being continued.

#### Summary

1. The success of the complement fixation test for viral and rickettsial diseases depends on:

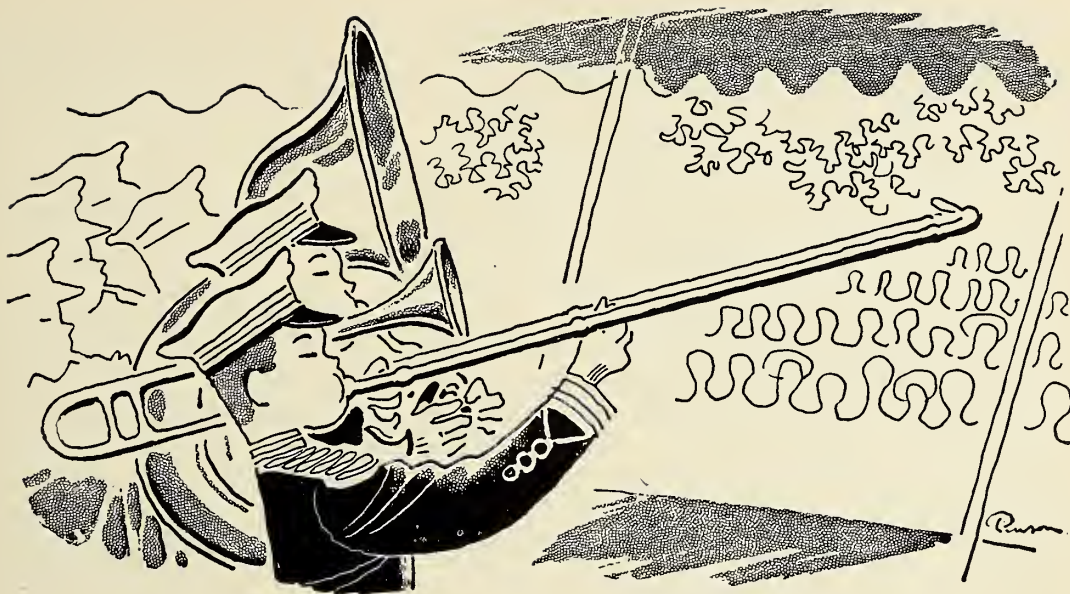
- A. A thorough knowledge of the basic complement fixation techniques.

- B. Reliable reagents, such as good complement, accurate two per cent red cell suspension, physiological salt solution prepared with quality reagents, and dependable antigens.

- C. Satisfactory specimens. Two specimens are necessary—one taken at onset and another taken during convalescence of illness.

2. A need for standardization of antigens and techniques to bring about uniformity of results is indicated.


3. The complement fixation test for viral and rickettsial diseases, when performed with the ut-



Two  
Instruments  
of hope  
*in petit mal*

For four years, there was one high note of hope for the 100,000 or more victims of *petit mal*. This was offered by TRIDIONE, the first Abbott-developed, synthetic anticonvulsant. Its dramatic therapy restored many children, once seizure-ridden, to happy, normal lives. Soon after introduction, it was called "clearly the drug of choice in the treatment of the *petit mal* triad."<sup>1</sup>

But then, in 1949, PARADIONE—homologue of TRIDIONE—emerged from three years of clinical testing as an equally effective agent for the symptomatic control of *petit mal*, myoclonic jerks and akinetic seizures. Although similar in action to its predecessor, PARADIONE proved successful in many instances where lack of response or intolerance had made TRIDIONE therapy infeasible. The value of both drugs is well documented in medical journals.

 Please see the literature, however, before administering either TRIDIONE or PARADIONE. There are certain techniques, precautions which must be observed. Just drop us a card. All prescription pharmacies have TRIDIONE and PARADIONE in tablets, capsules, solutions. Abbott Laboratories, North Chicago, Illinois. **Abbott**

**Tridione®**

(TRIMETHADIONE, ABBOTT)

**Paradione**

TRADE MARK

(PARAMETHADIONE, ABBOTT)



most respect for detail, can be of great value as a diagnostic tool.

#### Bibliography

1. Bengston, Ida A.: Complement Fixation in the Rickettsial Diseases. Technique of the Test. Public Health Reports, 59:402-406.
2. The Serological Diagnosis of Rickettsial Diseases. Laboratory Manual. Fed. Sec. Agency. P. H. Service. Lab. Div. C.D.C. Atlanta, Ga.
3. Kolmer, John A.: Kolmer Complement Fixation Test for Syphilis. Manual of Serologic Tests for Syphilis, Supp. #22 to J. V. D. I. P. H. Service 1949.
4. Smadel, Joseph E.: Rickettsial Diseases. Diagnostic Procedures for Virus & Rickettsial Diseases. Am. P. H. Ass. 1948 p. 316-322.
5. Hammon, W. McD.: Encephalitis. Diagnostic Procedures for Virus & Rickettsial Diseases. Am. P. H. Ass. 1948 p. 214-215.
6. Enders, John F.: Mumps. Diagnostic Procedures for Virus & Rickettsial Diseases. Am. P. H. Ass. 1948 p. 152-157.
7. Cox, Herald R.: Specific Complement-Fixing Antigens for Viral & Rickettsial Diseases. Am. J. P. H. 38:351-360 (1948).
8. Strauss, Elias, and Sulkin, S. Edward: Studies on Q Fever Complement-Fixing Antibodies in Meat Packers at Fort Worth, Texas. Pro. Soc. Exper. Bio. & Med. 67:139-141 (1948).
9. Strauss, Elias and Sulkin, S. Edward: Q Fever, Complement-Fixing Antibodies with *C. burnetii* in Various Geographic Areas and Occupational Groups in the United States. Am. J. of P. H. 59:492-502 (1949).
10. Rich, A. B., and Hill, Austin E.: Q Fever Survey in Southwest Texas. Am. J. P. H. 59:486-491 (1949).
11. Barker, Leslie Paxton: Rickettsialpox. J.A.M.A. 141:1119-1123 (1949).
12. Bell, Joseph A., Beck, Dorothy, and Huebner, Robert J.: Q Fever in Southern California. J.A.M.A. 142:868-872 (1950).
13. Bengston, Ida, and Topping, Norman. Am. J. Public Health 1942 32:48-58.

---

## COUNTY SOCIETIES

---

A meeting of the Central Kansas Medical Society was held at St. Anthony's Hospital, Hays, June 15. The following papers were presented: "Hemolytic Anemia," Dr. H. Alden Flanders; "Pathological Fractures," Dr. John Thurlow; "Observations on Skin Malignancies," Dr. A. M. Cherner; "Interesting Stomach Lesions," Dr. Lloyd W. Reynolds; "Tumor Studies," Dr. Philip Clark. In the evening the society entertained members of the Auxiliary as dinner guests and presented a Blue Shield program with Mrs. Margaret Foster and Mr. Procter Redd, Topeka, as speakers.

\* \* \*

Members of the Riley County Society were hosts to the Golden Belt Medical Society at a meeting held at the Manhattan Country Club July 6. The scientific program, presented in the afternoon, was followed by a dinner meeting. Dr. J. Milton Singleton, Kansas City, Missouri, spoke on "Observations on Clinical Results in Cauterization of the Post-partum Cervix," and showed a sound movie on "Care and Treatment of the Breast." Dr. John Lyon, of the University of Colorado School of Medicine, Denver, discussed "Basic Concepts of Psychosomatic Medicine."

\* \* \*

The Crawford County Society sponsored a broadcast over Station KSEK, Pittsburg, July 3, a transcription of a speech made in Topeka recently by Dr. Ralph J. Gampell before the annual meeting of the Kansas State Chamber of Commerce. Dr. Gampell, who had practiced in England under that coun-

try's form of socialized medicine, told his impressions of that plan.

\* \* \*

Members of the Cowley County Society and their families were guests of the Winfield Academy of Medicine at a picnic at the Winfield Country Club June 29.

\* \* \*

Members of the Saline County Society entertained other physicians of the area at a "pasture party" at Grainmen's Lake near Bavaria on July 27.

\* \* \*

The Sedgwick County Society will hold its annual fall clinical session September 20, 21 and 22. On Wednesday morning, September 20, visiting physicians may go to various hospitals and choose from operating schedules the procedures they wish to see. In the afternoon there will be clinical presentations by local society members. On Thursday there will be clinical pathological conferences with Dr. J. B. Fisher and Dr. J. S. Hibbard in charge of medical and surgical programs respectively. On Friday there will be a golf tournament, followed by a banquet.

\* \* \*

A meeting of the Sumner County Society was held at St. Luke's Hospital, Wellington, June 19. Dr. Roy C. Knappenberger, Wichita, spoke on "Common Diseases of Children."

---

### Nuclear Study Available

Physicians at the University of Kansas Medical Center who are taking graduate training are now eligible to study nuclear physics and the application of atomic energy to medicine at the Institute for Nuclear Studies, Oak Ridge, Tennessee. The Kansas school was accorded this recognition by the board of directors of the institute at a recent meeting.

Physicians who study at the atomic energy laboratories will have the opportunity to do research work on the peaceful aspects of atomic energy and radioisotopes. They will learn the newest techniques and tools in cancer and metabolic research. Dr. C. Frederick Kittle, who was recently selected by the department of surgery at the medical center for a clinical fellowship award from the American Cancer Society, Inc., will be the first doctor from the Kansas school to study at Oak Ridge under this arrangement.

The Atomic Energy Commission also announces that complete files of non-secret reports on atomic energy are being made available to 31 American libraries throughout the country. Approximately 3,500 reports are now completed and 1,500 new reports are issued each year.

# AUREOMYCIN

## CRYSTALLINE

### *in Infections of the Puerperium*

During the past year, obstetricians have become increasingly impressed with the ability of aureomycin to prevent or arrest infections of the puerperium. Where infection is feared, or has appeared, this broadly effective antibiotic is highly useful. Drug fastness and allergy are very rare following aureomycin. It is believed that this new crystalline form of aureomycin obviates nearly all side reactions.

Aureo-  
mycin



Aureomycin has also been found effective for the control of the following infections:

Acute amebiasis, bacterial infections associated with virus influenza, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, brucellosis, chancroid, Friedländer infections (*Klebsiella pneumonia*), gonorrhea (resistant), Gram-negative infections (including those caused by some of the coli-aerogenes group), Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), granuloma inguinale, *H. influenzae* infections, lymphogranuloma venereum, peritonitis, pertussis infections (acute and subacute), primary atypical pneumonia, psittacosis (parrot fever), Q fever, rickettsialpox, Rocky Mountain spotted fever, sinusitis, subacute bacterial endocarditis resistant to penicillin, surgical infections, tick-bite fever (African), tularemia, typhus and the common infections of the uterus and adnexa.

**Capsules:**  
Bottles of 25, 50 mg. each capsule.  
Bottles of 16, 250 mg. each capsule.

**Ophthalmic:**  
Vials of 25 mg. with dropper,  
solution prepared by adding  
5 cc. of distilled water.

LEDERLE LABORATORIES DIVISION

*AMERICAN Cyanamid COMPANY*

30 Rockefeller Plaza, New York 20, N. Y.



## ACTIVITIES OF MEMBERS

Dr. John N. Sherman, Chanute, resigned last month as health officer for Neosho County. Dr. J. D. Gough, Chanute, accepted appointment to the office.

\* \* \*

Dr. William G. Weston, Arkansas City, was recently elected president of the Tri-County Medical Society, succeeding Dr. L. G. Neal of Ponca City, Oklahoma.

\* \* \*

A new building is being constructed in Parsons for the seven physicians on the staff of the Parsons Clinic. They are Doctors Charles H. Miller, M. C. Ruble, R. W. Urie, Earl A. Martin, Charles F. Henderson, Guy W. Cramer and John B. Dixon.

\* \* \*

Dr. Philip W. Morgan, Emporia, addressed the Rotary Club at Burlington on the subject of heart disease at a meeting held June 22.

\* \* \*

Dr. Robert B. Wilson, Kansas City, has been named to the board of directors of the Kansas City Society for the Hard of Hearing.

\* \* \*

Dr. L. A. Donnell, member of the board of city commissioners of Wichita, resigned from the city administration last month to devote time to his campaign for nomination to Congress from the Fourth District.

\* \* \*

Dr. and Mrs. Warren Morton, Green, were guests of honor at a dinner given by the Clay County Medical Society on June 14. Dr. and Mrs. Morton are moving to Seattle, Washington.

\* \* \*

Dr. J. G. Lee, Jr., Kansas City, has filed for the Republican nomination for coroner of Wyandotte County. He was recently appointed to that office to fill the unexpired term of Dr. Ray Busenbark.

\* \* \*

Dr. Herbert Randles, Fort Scott, observed his 50th anniversary in the practice of medicine last month. For 41 years he practiced in White City, leaving there in 1941 to join his son, Dr. Leland P. Randles, in practice in Fort Scott.

\* \* \*

The Hertzler Clinic, Halstead, announces that Dr. John I. Waller, formerly of Indianapolis, Indiana, is now a member of the staff and is chief of the Department of Urology.

\* \* \*

Dr. H. M. Webb, Humboldt, who has practiced there more than 40 years, was honored at a com-

munity reception held at the Humboldt Methodist Church June 28.

\* \* \*

Dr. H. O. Anderson, Wichita, was a speaker at a district meeting of the Kansas Social Workers Association held at Wichita June 30. He spoke on orthopedic conditions.

\* \* \*

Dr. James D. Colt, V., Manhattan, is taking a surgical residency at Buffalo General Hospital, Buffalo, New York.

\* \* \*

Dr. John R. Adams, of the Menninger Foundation, Topeka, became a diplomate of the American Board of Neurology and Psychiatry last month, having completed examinations in San Francisco in June.

\* \* \*

Dr. George Basham, Eureka, has enrolled for postgraduate work at the Cook County Graduate School of Medicine, Chicago.

\* \* \*

Dr. A. C. Irby, Fort Scott, is in Kansas City for a year's postgraduate work in the children's division of the University of Kansas Medical Center.

\* \* \*

Dr. D. C. McCarty, Medicine Lodge, has been appointed medical adviser for the American Red Cross blood program in Barber County.

\* \* \*

Dr. Hector Morrison, Smith Center, celebrated his 50th anniversary in the practice of medicine on July 10. He first practiced at Womer, moving to Smith Center in 1907.

\* \* \*

Dr. R. A. Schwegler, Jr., Lawrence, announces that Dr. R. L. Hermes is now associated with him in the practice of obstetrics and gynecology. Dr. Hermes has been senior resident in obstetrics and gynecology at the Southwest Medical School at Dallas, Texas, during the past three years.

\* \* \*

The Randles Clinic, Fort Scott, announces that Dr. G. Keith Kennard, who recently finished his internship at Philadelphia Naval Hospital, is now a member of the staff. Dr. Kennard was graduated from the University of Kansas School of Medicine in 1949.

\* \* \*

Dr. L. E. Filkin, Concordia, left July 19 for two months graduate work in obstetrics and gynecology at the Harvard School of Medicine, Boston.

\* \* \*

Dr. Fred Emery, formerly of Seneca and Des Moines, is now practicing surgery in Concordia in association with Dr. E. R. Gelvin.



## *Your Cosmetic Budget*

*During the course of the year you spend a certain sum of money for beauty preparations. This sum of money represents your Cosmetic Budget. As with all budgets, it can be spent intelligently or squandered aimlessly.*

*Regardless of economic trends, it is always wise to give careful consideration to the act of buying.*

*We suggest it is both economical and more effective to buy a well-balanced cosmetic service composed of preparations selected with regard to your particular requirements and preferences, and that you will therefore welcome the services of the Cosmetic Consultants who distribute our preparations in your community.*

### **LUZIER'S, FINE COSMETICS AND PERFUMES**

*Are Distributed in Kansas By:*

**BURBRIDGE AND BURBRIDGE, Divisional Distributor**

519-520 Continental Bank Building  
Lincoln, Nebraska

#### **Distributors**

**BEULAH CHINN**  
324 No. Rutan  
Wichita 8, Kansas

**MAXINE DELFORGE**  
1911 Grove St.  
Topeka, Kansas

**GLADYS P. MILLER**  
606 E. Simpson  
McPherson, Kansas

**VERYL DODSON**  
610 W. Walnut  
Dodge City, Kansas

**RICHARD E. EAKIN**  
313 Walnut  
Dodge City, Kansas

**VENA HAZELL**  
401 East 9th  
Hutchinson, Kansas

**ERMA WELLS**  
Room 200, 635 Kansas  
Topeka, Kansas

**O'DELL & O'DELL**  
P. O. Box 112  
Lawrence, Kansas

**JUANITA DOUGLASS**  
846 S. Spruce  
Wichita 16, Kansas

**OTTIE HOOD**  
P. O. Box 309  
Hutchinson, Kansas

**KATHLEEN SCOGGIN**  
707½ Commercial  
Atchison, Kansas



Dr. V. J. Elson, Paola, has returned from Chicago where he took a postgraduate course in cardiology at Cook County Hospital.

\* \* \*

Dr. Eugene Walsh, Onaga, was named grand knight of the Wheaton Council of the Knights of Columbus at a meeting held in July.

\* \* \*

Dr. H. J. Deeths, Atchison, has announced that he is moving to Sherman Oaks, California, and will practice there.

\* \* \*

Dr. William F. McGuire, Wichita, recently became a diplomate of the American Board of Pediatrics.

\* \* \*

Dr. Warford B. Johnson, formerly of Wichita, is now associated with the Veterans Administration Hospital, Big Springs, Texas.

### Psychiatric Training in Topeka

Forty young doctors began graduate training in psychiatry in Topeka on July 1. They are enrolled in the Menninger School of Psychiatry, where 64 other physicians are entering their second and third years of the formal three-year training program, making up the largest number being trained at any one center in the world.

Eleven of the new fellows are residents at the Topeka State Hospital and 29 are at Winter VA Hospital. They will have an opportunity to spend part of their training period at the clinic and hospital of the Menninger Foundation, or at the Southard School if they are particularly interested in child psychiatry.

The Topeka State Hospital also provides opportunity for study for other groups. Twenty-eight new students, attendants, nurses and psychiatric aides, are now taking a one-year training course conducted under the cooperative efforts of the Menninger Foundation, the Rockefeller Foundation and the hospital. They make up the second class for the course, the first to complete training October 1. Four other classes will be accepted at intervals of six months in the present experimental program.

### Cortisone Now Available

Cortisone is now available to a large number of hospitals throughout the United States under the trade name Cortone, it was announced recently by Merck and Company, Inc., who first produced the drug by chemical synthesis.

For a temporary time Cortone will be supplied only to those hospitals having certain minimum facilities operated by trained technicians and under

the supervision of qualified physicians. A total of 6,500 hospitals registered by the American Medical Association meet those requirements. The drug is to be used, during the initial period of treatment, only in patients hospitalized in these institutions.

Cortone will be delivered to these hospitals in packages of three vials, each vial containing 300 milligrams of the substance. The price to hospitals will be \$28.50 per vial, equivalent to \$95 per gram. This is the fourth in a series of price reductions which have brought the price down from an original figure of \$200 per gram, the amount first paid by qualified clinical investigators.

Although the complex chemical nature of this substance and the scarcity of raw materials have imposed unprecedented manufacturing difficulties, the supply of the drug is now more than sufficient to cover all the needs of clinical investigation and other research. When applied to the treatment of disease, however, present supplies and production of this compound are unfortunately far short of the total needed to treat all the patients with diseases for which Cortone is recommended.

## DEATH NOTICES

### JAMES HENRY BOSWELL, M.D.

Dr. J. H. Boswell, 71, an honorary member of the Cherokee County Medical Society, died June 16. He had practiced in Baxter Springs 41 years, until his retirement four years ago. He was a graduate of the Northwestern University School of Medicine in 1905.

\* \* \*

### THOMAS AUGUSTINE O'CONNOR, M.D.

Dr. T. A. O'Connor, 60, died at his home at Topeka July 8 after suffering a heart attack. He was graduated from the St. Louis University School of Medicine in 1914 and opened his office in Topeka immediately, remaining in active practice until his death. He was a member of the Shawnee County Medical Society.

\* \* \*

### FAY EDWARD KUNCE, M.D.

Dr. F. E. Kunce, 69, a member of the Sedgwick County Society, died July 16 at Wichita. He received his medical degree in 1916 from Loyola University School of Medicine, and began practice at Tipton, moving to Wichita in 1922. After a heart attack several years ago he retired and went to California, returning to Wichita as soon as he was able to resume his practice.

**a  
long  
and  
distinguished  
career  
in  
urography**



**NEO-IOPAX<sup>®</sup>**

(brand of sodium iodomethamate)



An 18 year history of dependable roentgenograms obtained without harm to the patient distinguishes the career of NEO-IOPAX as a diagnostic urographic agent. Since 1932, *hundreds of thousands of doses of* NEO-IOPAX have been injected with virtual freedom from serious untoward reactions. No other urographic contrast medium has equalled the safety record of NEO-IOPAX. No agent, experience with which is limited to a relatively small number of patients, can be deemed to be as safe. Because the patient's life and welfare take precedence over all other considerations in diagnostic investigation of the urinary tract, urologists and roentgenologists will continue to rely—as always—on NEO-IOPAX.

Available as a stable, crystal-clear solution of disodium N-methyl-3, 5-diiodo-chelidamate in 10, 20 and 30 cc. ampuls of 50% concentration. NEO-IOPAX 75% concentration in 10 cc. ampuls, box of 5 ampuls; 20 cc. boxes of 1, 5 and 20 ampuls.

*Schering* CORPORATION • BLOOMFIELD, NEW JERSEY

**NEO-IOPAX**





## THE KANSAS PRESS LOOKS AT MEDICINE

### Wavering on Medical Plan

Lyle Wilson predicts that some Democrat congressmen will bolt the administration this year on the Brannan plan and compulsory medical insurance. The latter would cost about 6½ billion dollars in its first year, of which about 1½ billion dollars would come from general taxes, in the opinion of Oscar Ewing, federal security administrator. Wilson says some Democratic candidates are uneasy about the all-out campaign being made for medical insurance and the Brannan plan.

Who wants compulsory medical insurance, anyhow? Proponents of government medical service often argue that the scheme is favored by most of the American people, and that the opposition comes principally from selfish interests which put personal profit above the public welfare.

That position, however, is certainly not supported by the results of a survey made by the Psychological Corporation in 25 cities and towns from coast to coast.

The survey was based on the Wagner-Murray-Dingell bill. The question was, "Which do you favor: (a) to have government give free doctor and medical service which would be paid for by a three per cent payroll tax on all wages under \$3,600, or, (b) the present system of medical service?"

Here were the results: 65 per cent favored the present type of medical services; 26 per cent favored government medicine, and nine per cent were uncertain.

Another common argument holds that people in the lower income groups are virtually unanimously in favor of government medicine. Again, the corporation's survey found to the contrary. In that group, only 37 per cent were for it, while 51 per cent were against.

Three years ago a similar survey was made by the same organization, and the results were very similar.—*Kansas City Kansan*, June 16, 1950.

\* \* \*

### No Shortage Seen

One of the stock arguments for government regimentation of the practice of medicine is an allegedly severe "doctor shortage." The argument goes on to say that only the government can cure this dangerous situation.

Before accepting that, however, take a look at the cold, hard facts. Today there are 201,534 doctors practicing in the United States—a gain of 26,371 in the last 10 years. Proportionately the medical population is increasing faster than the

general population and our medical schools are graduating more doctors than ever before.

Now, this wouldn't mean anything if the number of patients that each doctor must treat, on the average, was too high. But the fact is that there is only one country in the world with a lesser number of patients per doctor than the United States. That nation is little Palestine. It is bulging with Jewish doctors who fled from Europe to escape the persecution of anti-Semitic dictators.

No one states that the doctor situation is perfect here. In some regions there are fewer medical men available than there should be. But this problem is gradually being solved. The medical profession, for instance, is doing a splendid work in encouraging young doctors to make their careers in rural areas.

Finally, what logical reason can there be for believing that more men would be attracted to medicine under a system where bureaucrats and politicians called the tune? The truth is that such a system would make many men turn to other professions and enterprises. Progress flourishes only in an air of freedom.—*Winfield Courier*, June 23, 1950.

\* \* \*

### "Doing As Well As Can Be Expected"

If the government takes over the doctors, under its socialized medicine plan, some of the following incidents may take place, according to H. L. Phillips in his column, "The Once Over."

Hank Hooker, who broke his leg last month and phoned the government for a doctor, got a wig today. Stacy Whitfield, who asked treatment for baldness, got the plaster cast intended for Hank...

Abel Hosely, who has been ailing all winter, expects his aches and pains to be assigned for a hearing in early spring... Jed Hull will have his tonsils out as soon as his ward leader processes the correct application blanks.—*Atchison Globe*, May 26, 1950.

\* \* \*

About four cents out of the average U. S. consumer's dollar goes for medical care. The present administration dislikes to see the consumer throw his money about in this fashion and is anxious to at least increase cost if not the care.—*Neodesha Sun*, June 26, 1950.

\* \* \*

The socialized medicine program seems to be losing its effect among the people. After people began to study what the final result of this socialistic program would mean to the people of the nation, they are strongly opposed to such a program which is promoted by a group of politicians and quack physicians.

The more we can discourage such socialistic practices the longer our democratic form of government will stand.—*Fowler News*, June 22, 1950.





## **SALT without SODIUM**

Cardiac failure, renal disease, hypertension, arteriosclerosis, or pregnancy complications call for sodium restriction. But, without seasoning, low sodium diets are difficult to endure.

Salt without sodium: Neocurtasal palatably seasons all foods.

Neocurtasal looks, pours and is used like table salt. Available in convenient 2 oz. shakers and 8 oz. bottles.



# **neocurtasal<sup>®</sup>**

*Winthrop-Stearns* INC. 170 VARICK STREET, NEW YORK, N. Y.



## ABSTRACTS FROM CURRENT LITERATURE

### Cardiac Disease in Pregnancy

*Cardiac Disease in Pregnancy.* By Joseph B. Vander Veer and P. E. Kuo, *Am. Heart Jnl.*, 39:1, 2-16, Jan., 1950.

Obstetric records from 1937 to 1947 at the Pennsylvania Hospital were reviewed to supply data for this study. The cardiac diagnoses were: rheumatic heart disease, 324; hypertensive heart disease, 51; congenital, 18; subacute bacterial endocarditis, two; acute pericarditis, one. Maternal deaths included five in acute congestive failure, four in acute congestive failure with pneumonia, two subacute bacterial endocarditis, one pulmonary embolism and one rheumatic endocarditis.

Death occurred six to 40 hours after delivery with dyspnea, cyanosis and pulmonary edema. The most dangerous time is the first 48 hours postpartum. Half the cases were delivered by low forceps in the second stage. Sixty per cent of the Cesarean sections were done for gynecological reasons.

Hypertensive patients stood repeated pregnancies if toxemia did not occur.

Of those with a congenital cardiac diagnosis, nine patent ductus patients did well. Four with inter-ventricular septal defects did well, but one of the two with coarctation of the aorta died with a ruptured aorta. One patient with pulmonary stenosis developed tachycardia and shortness of breath in her eighth month but was digitalized, had a Cesarean section and did well.

The authors emphasized the importance of estimating functional capacity early. All in Classes I and II except persons with coarctation do well. Those in Classes III and IV, with or without a history of failure, and those with auricular fibrillation should not get pregnant; if they do, they should be aborted before the fourth month. If not seen until after the fourth month, they should be treated for congestive failure: digitalis, low sodium diet and bed rest. Early failure is indicated by a respiratory rate over two times, tachycardia, moist basal rates.

Respiratory infections may quickly convert a Class I or II to a Class III or IV functional capacity.—P.W.M.

\* \* \*

### Nephrotic Syndrome

*Nephrotic Syndrome—Natural History of the Disease.* By Lewis A. Barness, Gretchen H. Moll and Charles A. Janeway, *Ped.*, 5:3, 486-503, Mar., 1950.

The records of 208 patients with the nephrotic

syndrome seen in the Children's and Infants' Hospitals of Boston from 1926 to 1948 were reviewed.

The main criteria found for differentiating between lipoid nephrosis and the nephrotic stage of chronic glomerulonephritis have been the presence of hypertension or azotemia for longer than one month in patients with the latter disease, which occurs more frequently in children over four years of age. Other features of the two diseases may be indistinguishable. Nonetheless, it is desirable to differentiate between them, as apparently few if any patients recover from the nephrotic syndrome if evidences of glomerulonephritis are clear cut.

Lipoid nephrosis is characterized by the insidious onset of edema in young infants and children, usually between the ages of one and four. Findings include edema, hypoproteinemia, hypercholesterolemia and heavy proteinuria. Blood pressure may be elevated for short periods, but rarely over one month. Microscopic hematuria does not exclude the diagnosis, though macroscopic hematuria is usually evidence of glomerular involvement.

Symptoms and findings in lipoid nephroses may persist for from one to three years without specific therapy. Exacerbations with infection, followed by remissions shortly after the infection, and remission soon after the onset of the disease are relatively common. Prognosis is not related to the number or duration of the exacerbations. Death before 1942 was chiefly due to intercurrent infection. Since 1942, with the advent of sulfadiazine and the newer antibiotics, death from infection has become less common, and has usually occurred at home, presumably because treatment was not promptly instituted.

There is apparently no constitutional defect in these children before the onset of the disease, and growth and development are normal after recovery.

No form of treatment has been found wholly satisfactory. Paracentesis, transfusion and low salt diet are the most common supportive measures used. Antibiotics are valuable during infections and have apparently lowered the mortality of the disease in recent years. Focal sources of infection should be eliminated by operative procedure only when surgical intervention is definitely indicated. Injections of salt-poor concentrated human serum albumin and the induction of measles are being evaluated as methods of inducing diuresis.

In this series approximately one-half of the patients with a clinical diagnosis of lipoid nephrosis have apparently recovered completely without residual disease, while a small number show persistent albuminuria or hypertension. It is hoped that with closer supervision of the patients and with adequate chemotherapy, this figure can be significantly increased in the near future.—D.R.D.

## POSTGRADUATE COURSE IN PSYCHOSOMATIC MEDICINE

October 30 and 31, November 1, 1950

AT WINTER VETERANS ADMINISTRATION HOSPITAL, TOPEKA

Presented Jointly By the  
UNIVERSITY OF KANSAS SCHOOL OF MEDICINE and the MENNINGER SCHOOL OF PSYCHIATRY

### FACULTY

SYLVIA ALLEN, M.D., Associate in Neuropsychiatry, K.U.  
MAXWELL G. BERRY, M.D., Associate in Medicine, K.U.  
RUDOLPH CHESSE, M.D., Chief, Medical Services, Winter V. A. Hospital.  
MARGARET CRAIGHILL, M.D., Assistant Chief, Psychosomatic Section, Winter V. A. Hospital.  
ALLEN ENELOW, M.D., Staff Member, State Hospital, Topeka.  
JAN FRANK, M.D., Menninger Clinic.  
EDWARD D. GREENWOOD, M.D., Director, Southard School, Menninger Foundation, and Lecturer in Neuropsychiatry, K.U.  
MORTON JACOBS, M.D., Associate in Neuropsychiatry, K.U.  
KENNETH E. JOCHIM, Ph.D., Professor of Physiology, K.U.  
ROBERT J. KINNEY, M.D., Staff Physician, State Hospital, Topeka.  
PAUL C. LAYBOURNE, JR., M.D., Associate in Neuropsychiatry, K.U.  
KARL A. MENNINGER, M.D., Director of Education, Menninger Clinic, and Clinical Professor of Neuropsychiatry, K.U.  
JAMES M. MOTT, JR., M.D., Staff Physician, State Hospital, Topeka.  
DON CARLOS PEETE, M.D., Associate Professor of Clinical Medicine, K.U.  
ALBERT PRESTON, JR., M.D., Instructor in Neuropsychiatry, K.U.  
WM. F. ROTH, JR., M.D., Professor of Neuropsychiatry, K.U.  
WM. ROTTESMAN, M.D., Staff Member, Menninger Clinic, and Lecturer in Neuropsychiatry, K.U.  
SIDNEY RUBIN, M.D., Psychosomatic Section, Medical Service, Winter V. A. Hospital, and Lecturer in Neuropsychiatry, K.U.

GEORGE SASLOW, Ph.D., M.D., Associate Professor of Psychiatry, Washington University School of Medicine, St. Louis.  
RICHARD L. SUTHERLAND, M.D., Chief, Diagnostic Appraisal Unit, Medical Service, Winter V. A. Hospital, and Instructor in Neuropsychiatry, K.U.  
NATHANIEL UHR, M.D., Assistant Chief of Medical Service, Winter V.A. Hospital.

### SUBJECTS TO BE DISCUSSED

New Concepts of Disease.  
Physician-Patient Relationships.  
Demonstration of Patient Interview, with Discussion of Technique and Procedure.  
The Language of the Emotions as Observed by the Physician.  
The Treatment of Somatic Neurosis in Children.  
The Psychosomatic Aspect of Childhood.  
Psychological Problems Encountered in Gastro-enterology.  
The Psychotherapy of Certain Gastro-Intestinal Disorders.  
Psychosomatic Problems of Gastro-Intestinal Illnesses.  
Physiological Mechanisms Related to Mental and Physical Stress.  
Psychosomatic Aspects of Cardiovascular Disease.  
Emotional Factors in Cases Presenting Cardiac Symptoms.  
Psychosomatic Aspects of Cardiovascular Disease.  
Psychosomatic Medicine and Specialization.  
Geriatric Problems (Psychosomatic).  
Involuntional Problems (Psychosomatic).  
Psychosomatic Aspects of Ageing.  
Staff Case Presentation—Winter V. A. Hospital.  
Ward Visits—Winter V. A. Hospital and State Hospital.  
Group Case Discussions.



## *Woodcroft Hospital—Pueblo, Colorado*

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



---



---

## BOOK REVIEWS

---



---

*The Merck Manual, Eighth Edition. Published by Merck and Company, Incorporated, Rahway, New Jersey. 1,592 pages. No illustrations. Price \$5.00.*

This recent edition contains several important and pertinent additions, including chapters on nutritional deficiencies, radiation reactions and injuries, allergies and antihistaminics, psychoneuroses, drug addiction, dental emergencies, prenatal and postnatal care, and the care of the premature infant. A chapter on antibiotic therapy is included which outlines the recent development in therapy with the newer agents. Chapters have also been added which outline the important points about Vitamin B<sub>12</sub>, Cortisone and ACTH.

The book is provided with a system of thumb indices whereby the various subdivisions may be readily recognized and located. The publication should perhaps find use in medical installations where the library facilities are greatly limited and as a ready reference for persons working in the ancillary medical services.—R.E.B.

\* \* \*

*Proctology in General Practice. By J. Peerman Nesselrod, M.D. Published by W. B. Saunders Company, Philadelphia. 276 pages, 64 figures. Price \$6.00.*

This book presents a thorough discussion of the anatomy, physiology, and diagnostic procedures applicable to the anus and lower colon with particular emphasis on the diagnosis and management of diseases in this area. It stresses the value of proctoscopy: "...no really thorough physical examination is complete without adequate proctoscopy" (page 54), an examination whose worth is further testified by the statement (page 48) that in 90 per cent of the diseases involving the colon, some evidence of them will be present on examination with the proctoscope.

There are excellent chapters on hemorrhoidal disease, anal fissure, anal abscess and fistula, pre- and postoperative management of anorectal conditions, anorectal malformations, anal pruritus, and other related topics. Operative techniques including surgical diathermy are discussed under the individual disease heading.

The illustrations are well-done and include proctoscopic photographs. In general the references are limited. The author is a surgeon particularly trained and interested in proctology. He is well-qualified to discuss all phases of this subject.

This book will be welcomed by all surgeons and

general practitioners, and should be of value to anyone who desires more than a superficial knowledge of anorectal diseases.—C.F.K.

\* \* \*

*Textbook of Endocrinology. Edited by Robert H. Williams, M.D. Published by W. B. Saunders Company, Philadelphia. 749 pages, 295 illustrations. Price \$10.*

This book brings together most of the basic fundamentals of endocrinology. It will probably serve best as a textbook for students. It seems a little too detailed in some respects for the everyday use of the busy practitioner, but it does offer a basic understanding of endocrinology problems and includes in a brief form some of the recent progress in this field. It does not, however, fill the complete requisite of a reference book. Some of the chapters are excellently written and well illustrated.

This reviewer felt that the sections on the adrenal glands and on the testes were superior to other sections. The section on the thyroid gland, written by the editor, does not give proper evaluation of the problem of radioactive iodine, and it appears also that this section is too dogmatic about some of the theoretical aspects of thyrotoxicosis and myxedema, specifically a discussion concerning malignant exophthalmos. It seems also that the section on diabetes mellitus contains too much, and yet not enough biochemistry to make it practical for clinical purposes. The section on the parathyroid glands is interesting, well written and practical.

By and large, this book does seem to fill a definite place between the more detailed reference books on endocrinology and the extremely sketchy handbooks which are available. It should serve a useful purpose.—E.H.F.

\* \* \*

*Sex Without Fear. By S. A. Lewin, M.D., and John Gilmore, M.D. Published by Lear Publishers, New York. 116 pages, 46 illustrations. Price \$3.00.*

This brief and easily read cloth-bound volume is dedicated to the married and those about to be. It represents an attempt to present basic information regarding sexual functions and reproductive processes to the laity in a completely understandable yet inoffensive manner. Subject material includes elementary discussions of reproductive anatomy, endocrinology, psychology and physiology. Informative material dealing with the problems of infertility, contraception and the climacteric are included.

This book would be of value to those patients desiring written information in conjunction with the premarital examination and interview.—T.W.C.

## CLASSIFIED ADVERTISEMENTS

**DOCTOR WANTED** for rural community. Large thickly populated area, 14 miles to nearest doctor, 16 miles to nearest hospital, 20 miles northeast of Wichita. Write the Journal 31-50.

**FOR SALE**—F. A. Hardy and Co. 1904 ophthalmometer and adjustable stand, Hobart metal cabinet with 27 small drawers and wooden base, treatment chair, examination chair, table cushion, urinary test cabinet, sterilizer, small oak desk and swivel chair and cushion, heat lamp, electric window cooler, instrument table, etc. Write the Journal 32-50.



**THE  
W. E. ISLE CO.**  
1121 GRAND AVE.  
KANSAS CITY, MO.

**TRUSSES**  
... Accurately fitted to assure complete protection and greatest possible comfort

ENTIRE SECOND FLOOR TELEPHONE VICTOR 2350

# OUR 35th YEAR

## AN

### INSTITUTION

### OF STRENGTH

### AND CHARACTER

You modernize constantly the equipment in your office to keep abreast of the times. You have an opportunity to modernize your Collection Department through Midland Service, based on facts—not opinions. It is available to you upon request, and with it goes the assurance it will prove highly profitable to you.

**MIDLAND**

*Finance Corporation*

20 W. 9th St. Bldg.

Kansas City, Mo.



## THE BROWN SCHOOL

Four distinct units. Tiny Tots through the Teens. Ranch for older boys. Special attention given to educational and emotional difficulties. Speech, Music, Arts and Crafts. A staff of 12 teachers. Full time Psychologist. Under the daily supervision of a Certified Psychiatrist. Registered Nurses. Private swimming pool, fireproof building. View book. Approved by State Division of Special Education.

BERT P. BROWN, DIRECTOR  
PAUL L. WHITE, M.D., F.A.P.A.,  
MEDICAL DIRECTOR  
P. O. Box 4008, Austin, Texas

## ACCIDENT • HOSPITAL • SICKNESS

# INSURANCE

### FOR PHYSICIANS, SURGEONS, DENTISTS

### EXCLUSIVELY



\$5,000 accidental death	\$8.00
\$25.00 weekly indemnity, accident and sickness	Quarterly
\$10,000.00 accidental death	\$16.00
\$50.00 weekly indemnity, accident and sickness	Quarterly
\$15,000.00 accidental death	\$24.00
\$75.00 weekly indemnity, accident and sickness	Quarterly
\$20,000.00 accidental death	\$32.00
\$100.00 weekly indemnity, accident and sickness	Quarterly
COST HAS NEVER EXCEEDED AMOUNTS SHOWN.	
ALSO HOSPITAL POLICIES FOR MEMBERS' WIVES AND CHILDREN AT SMALL ADDITIONAL COST	

85c out of each \$1.00 gross income used for members' benefits

\$3,700,000.00 Invested Assets  
\$16,000,000.00 Paid for Claims  
\$200,000.00 deposited with State of Nebraska for protection of our members

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION  
PHYSICIANS HEALTH ASSOCIATION

48 years under the same management

400 FIRST NATIONAL BANK BLDG., OMAHA 2, NEBRASKA



*Pathology in General Surgery.* By Paul W. Schafer. Published by University of Chicago Press, Chicago. 580 pages. Price \$17.50

This 580-page book by Dr. Schafer contains 368 color plates of gross and microscopic studies of pathology directly related to the descriptions in the text. It also contains reproductions of many x-ray films correlating the clinical and pathologic studies.

One of the most striking features of this book is the beauty and clarity of the colored illustrations. The arrangement of the illustrations to fit the discussions and descriptions of each disease is all that could be desired from the reader's standpoint.

The subjects are well arranged, the printing is excellent, and the bibliography is adequate for an extensive study of each disease. Interest is stimulated by the many references to medical history. The essentials are here without any padding. The correlation between the clinical and pathologic features of disease are clearly presented, making each subject a clinico-pathologic study.

Here is a book for both the surgical clinician and the pathologist. It should stimulate the former to learn more pathology, and the latter to correlate pathology with the clinical aspects of disease. The reviewer has read the book from cover to cover and has no doubts about its value. For the medical student, the beginner in surgery, and the practicing surgeon, it should always be at hand for ready reference.—T.G.O.

### Film on Nation's Health Previewed

"M.D.—The U. S. Doctor," a documentary film depicting the state of the nation's health, was previewed during the A.M.A. meeting in San Francisco in June. The film will be released nationally in September as part of a new series which will appear in theaters across the nation as "The Reader's Digest on the Screen."

The film records medical progress, pointing out that babies born today will live 18 years longer than those born at the turn of the century. The

medical advancements made with antibiotics and the progress in surgical techniques are spotlighted through the material gathered by the Reader's Digest with the collaboration of the A.M.A. During the 39 minutes the film runs there is repeated evidence of the A.M.A.'s contribution to the health of the American people.

## ANNOUNCEMENTS

- August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.
- September 18-20—Postgraduate Course in Anesthesiology, University of Kansas Medical Center.
- September 27—Annual Meeting, American Medical Writers' Association, Elks Club, Springfield, Illinois. Write the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.
- September 27-29—Annual Meeting, Mississippi Valley Medical Society, Elks Club, Springfield, Illinois. Write the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.
- October 12-14—Course in Postgraduate Gastroenterology, National Gastroenterological Association, Hotel Statler, New York City. Full information from Association, Dept. GSJ, 1819 Broadway, New York 23, New York.
- October 23-27—36th Clinical Congress, American College of Surgeons, Boston, Massachusetts. Headquarters at Statler and Copley Plaza. Full information from A.C.S., 40 East Erie Street, Chicago 11, Illinois.
- October 30-November 1—Postgraduate Course in Psychosomatic Medicine, changed from University of Kansas Medical Center to Winter VA Hospital, Topeka.
- October 31-November 3—Annual Assembly, International College of Surgeons, Cleveland, Ohio. Write International College of Surgeons, U. S. Chapter, 511 Terminal Building, Cleveland 13, Ohio.
- November 6-10—Postgraduate Course in Obstetrics, Gynecology and Pediatrics, University of Kansas Medical Center.
- December 11-13—Postgraduate Course in Therapeutics, University of Kansas Medical Center.
- January 8-10—Postgraduate Course in Radiology, University of Kansas Medical Center.
- January 29-February 2—Postgraduate Course in Surgery, including Urology, Orthopedics and Industrial Surgery, University of Kansas Medical Center.
- February 12-14—Postgraduate Course in Public Health and Preventive Medicine, University of Kansas Medical Center.
- February 19-21—Postgraduate Course in Physical Medicine and Rehabilitation, University of Kansas Medical Center.
- March 19-22—Postgraduate Course in Internal Medicine, including Psychiatry and Dermatology, University of Kansas Medical Center.

### Classified Ad

FOR SALE—G. E. Victor x-ray with developing tank and filing cabinet, excellent condition, \$500; Hamilton examining table with matching instrument cabinet, treatment table and sterilizer table, seven chrome chairs with matching table, new microscope, five-ton capacity York air conditioner and many other articles of office equipment. Write the Journal 33-50.

Merck & **Mallinckrodt**® Reagents

KLINE TEST ANTIGEN (LAMOTTE)

PYREX LABORATORY GLASS WARE

PIPETTES AND BURETTES

PRECISION EQUIPMENT

HARTMAN-LEDDON SPECIALTIES

LABORATORY SUPPLIES & EQUIPMENT

KANSAS OWNED

**Southwest Scientific Corporation**

122 S. St. Francis

Wichita 2, Kansas

## RADIUM & RADIUM D & E

(including Radium Applicators)

FOR ALL MEDICAL PURPOSES

Est. 1919

Quincy X-Ray & Radium Laboratories

(Owned and Directed by a Physician-Radiologist)

Harold Swanberg, B.S., M.D., Director

W.C.U. Bldg.

Quincy, Illinois

# The Journal

OF THE KANSAS MEDICAL SOCIETY

## *Cancer Supplement*

Papers Presented at the Second Annual Mid-West

Cancer Conference

WICHITA, KANSAS

Broadview Hotel

January 19, 20, 21, 1950

Supplement, August, 1950

Vol. LI, No. 8





---

Entered as second-class matter, May 2, 1914, at the Postoffice at  
Topeka, Kansas, under the Act of March 3, 1879. Accepted for  
mailing at special rate of postage provided for in Section 1103,  
October 13, 1917. Authorized on July 2, 1918.

---

## CANCER SUPPLEMENT

Through this supplement to the August issue of the Journal of the Kansas Medical Society, the Kansas Division of the American Cancer Society is making available to the physicians of Kansas the papers presented at the Second Annual Mid-West Cancer Conference, last January 19, 20 and 21, as part of its program of professional education.

Every effort has been made to make the publications complete and as valuable as they were when presented at the conference. However, certain obstacles have been insurmountable and the Editorial Board and the Kansas Division of the American Cancer Society regret these shortcomings.

Neither of the papers of Dr. Roy Hertz were available for publication here because they contained material previously promised for publication elsewhere.

In their actual presentations the papers of all the essayists were profusely illustrated with slides (many of them in color) which added greatly to the value of the talks, and would add to the value of the published forms. Duplication of all slides, however, is neither practical nor possible, and as a result the publications of several of the speakers have either been extensively revised or condensed, or they contain references to "slides" which are not reproduced. It is hoped that readers will understand and be tolerant of these deficiencies.

It is the hope of the Kansas Division of the American Cancer Society and of the Editorial Board that this supplement will prove to be interesting and valuable to every physician who has the opportunity to read it.



## GUEST SPEAKERS

**A. N. Arneson, M.D., St. Louis, Missouri**

Associate Professor in Clinical Obstetrics and Gynecology and in Clinical Radiology, Washington University School of Medicine; Chief of Staff and Attending Gynecologist, Barnard Free Skin and Cancer Hospital.

**Arthur C. Curtis, M.D., Ann Arbor, Michigan**

Professor and Director, Department of Dermatology and Syphilology, University of Michigan Medical School.

**R. H. Flocks, M.D., Iowa City, Iowa**

Professor and Head, Department of Urology, College of Medicine of State University of Iowa; Chief Urologist, University Hospitals.

**L. H. Garland, M.D., San Francisco, California**

Associate Clinical Professor of Radiology, Stanford University Medical School; Visiting Radiologist in Charge, Stanford Service, San Francisco Hospital; Consultant Radiologist, Army, Navy, Veterans Administration.

**Roy Hertz, M.D., Ph.D., Washington, D.C.**

Chief, Endocrinology Section, National Cancer Institute; Assistant Professor of Medicine, George Washington University Medical School.

**William P. Longmire, Jr., M.D., Los Angeles, California**

Chairman, Department of Surgery, University of California at Los Angeles School of Medicine.

**Herbert Willy Meyer, M.D., New York, New York**

Professor of Clinical Surgery, Postgraduate Medical School, New York University-Bellevue Medical Center; Attending Surgeon, University Hospital; Visiting Surgeon, Bellevue Hospital; Associate Attending Surgeon, Lennox Hill Hospital.

**Robert A. Moore, M.D., St. Louis, Missouri**

Edward Mallinckrodt Professor of Pathology and Dean, Washington University School of Medicine.

**Alton Ochsner, M.D., New Orleans, Louisiana**

William Henderson Professor of Surgery and Chairman of Department of Surgery, School of Medicine, Tulane University of Louisiana; Director, Section on General Surgery, Ochsner Clinic; Regent, American College of Surgeons; President, American Cancer Society.

## PROGRAM

Thursday, January 19, 1950

### Afternoon Session

Problems in the Diagnosis of Neoplasms of the Kidney— R. H. Flocks, M. D.....	Page 5-A
The Importance of Lymph Node Metastases in Carcinoma of the Cervix Uteri—A. N. Arneson, M.D.....	Page 11-A
Malignant Neoplasms of the Skin—Arthur C. Curtis, M.D.....	Page 13-A
Cancer of the Breast—Herbert Willy Meyer, M.D.....	Page 18-A

Friday, January 20, 1950

### Morning Session

The Use of Hormones in Cancer Therapy—Roy Hertz, M.D.	
The Cutaneous Manifestations of Lymphoblastomata— Arthur C. Curtis, M.D. ....	Page 28-A
The Surgical Treatment of Carcinoma of the Stomach— W. P. Longmire, Jr., M.D. ....	Page 32-A
The Use of Radium in the Treatment of Endometrial Cancer— A. N. Arneson, M.D.....	Page 37-A



## PROGRAM

Friday, January 20, 1950

### Afternoon Session

Cancer of the Head and Neck Including Cervical Lymph Node Dissections—Herbert Willy Meyer, M.D.....	Page 39-A
Bronchiogenic Carcinoma—Alton Ochsner, M.D.....	Page 46-A
Carcinoma of the Bladder with Special Emphasis On Its Surgical Treatment—R. H. Flocks, M.D.....	Page 50-A
The Present Status of Radiology in the Diagnosis of Curable Cancer— L. H. Garland, M.D.....	Page 53-A

### Dinner Meeting

Progress in the Treatment of Cancer—Alton Ochsner, M.D.....	Page 56-A
---	-----------

Saturday, January 21, 1950

### Morning Session

Malignant Lesions of the Small Intestine—W. P. Longmire, Jr., M.D.....	Page 59-A
Radiological End Results in the Control of Cancer— L. H. Garland, M.D.....	Page 63-A
Tumors of the Testis—Robert A. Moore, M.D.....	Page 70-A
Approaches to the Cancer Problem Through Hormone Studies in Animals—Roy Hertz, M.D.	

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

Supplement to Issue for August, 1950

No. 8

## Problems in the Diagnosis of Neoplasms of the Kidney

R. H. Flocks, M.D.

Iowa City, Iowa

Neoplasms of the kidney may be divided into three groups. Group A is the Wilms' tumor which occurs primarily in the age group three to eight. Groups B and C are the neoplasms of the adult kidney. Group B are the so-called hypernephroma or tumors arising in the renal substance and Group C are the tumors which arise from the renal pelvis—the papillary carcinoma of the renal pelvis and the squamous cell epithelioma of the renal pelvis. These tumors are relatively infrequent, but not rare. At the University Hospitals, where approximately 80 carcinomas of the bladder are seen in a year, approximately 20 renal tumors occur. Of these, over 90 per cent are tumors of the renal substance and will occur in patients over the age of 30.

It is extremely difficult to make an early diagnosis of these kidney tumors because in the vast majority of instances, no symptoms at all occur until the neoplasm has progressed very significantly. The symptomatology, therefore, may be described as follows: There may be no symptoms and in the large majority of cases, no symptoms are present until the tumor has reached significant size. There may be pain due to the presence of a mass or due to pressure upon adjacent structures or due to the passage of blood clots associated with hematuria. There may be gross hematuria. There may be a mass. There may be fever due to breakdown in the center of the tumor. There may be pains or other symptoms due to metastases or extension of the tumor. Since, in the vast majority of cases, there are no symptoms or one or a combination of the above, one must be continuously on guard in the age group under eight and over 30.

Vague symptoms or other abnormalities may be due to a kidney tumor. Suspicion of the presence of a kidney tumor should be aroused if one of the following is present:

1. an abdominal mass
2. an unexplained fever

3. unexplained chest lesions
4. osteolytic lesion of bone
5. unexplained abdominal pain
6. unexplained loss of weight
7. unexplained anemia
8. any of the signs and symptoms described previously such as pain, hematuria, a mass in the kidney region or unexplained fever.

Since renal neoplasms are only fairly common and since the symptomatology is so variable, the diagnosis depends on one's thinking of it and upon a thorough roentgenological study. Therefore, if any of the above signs or symptoms are present, a thorough roentgenological study should be carried out. This may include the following:

(a) A very careful study is made of the soft tissue outlines of the kidney with special attention being paid to these outlines to see if there is any distortion suggesting the presence of a space-occupying mass in the kidney substance. Calcification in this region is not infrequently present in the presence of hypernephroma. If the soft tissue outline cannot be definitely made out, perirenal oxygen or air injections are frequently of value when one suspects the presence of hypernephroma.

(b) Pyeloureterograms with skiodan and with air frequently are of great value in the diagnosis of hypernephroma or tumor of the kidney pelvis. Distortion of the calices indicates the presence of space-occupying masses in the renal substance. Filling defects may indicate either hypernephroma or papillary tumor of the kidney pelvis. The latter is rarely associated with a change in the renal outline. Blood clots alone or non-opaque calculi must be differentiated if filling defects alone are present. Frequently a lateral pyeloureterogram with skiodan is of value and will show a distortion of the pelvis and calices which cannot be made out by the ordinary anterior-posterior pyeloureterogram.



(c) Occasionally, aortography is of value although this carries hazards which in the vast majority of cases would contraindicate it.

Typical distortion of the renal outline accompanied by distortion of the caliceal system in itself is almost pathognomonic of renal tumor. Differential diagnosis from cyst of the kidney, polycystic disease and renal carbuncle is necessary at times. Ordinarily, polycystic disease is bilateral and, therefore, can easily be differentiated because of associated hypertension and the family history. Solitary cyst is at times very difficult particularly when trying to make a differential diagnosis between cyst-adenocarcinoma and solitary cyst. Ordinarily, the younger the individual the more likely malignancy is to be present. However, differential diagnosis ordinarily can only be made by removing the kidney and studying it in the laboratory.

In recent years, the urine obtained from the kidney has been studied by the Papanicolaou technique to see if malignant cells can be found which would indicate the presence of renal neoplasm. Extensive studies have been made at the University Hospitals by Doctors R. G. Bunge and Otto Kraushaar. They have found that these studies are of little value thus far in hypernephroma because of the presence, not uncommonly, of false positives. On the other hand, no false positives have thus far been found in papillary tumor of the kidney pelvis. No studies have thus far been made upon Wilms' tumor. However, further studies are being carried out and because of the variability of the symptoms of renal neoplasm and because symptomatology is frequently misleading or does not occur until so very late, there is a real possibility that further advances in these cytological studies will make these studies a valuable adjunct to early diagnosis.

The following case abstracts are illustrative of the above points with regard to the different types of kidney tumor and different situations and problems which may arise with them.

Case I. A two-year-old girl was admitted to the University Hospitals on August 19, 1942. Her parents had noted that the patient's abdomen had been distended for the past year but she had remained in excellent health. Three to four months prior to admission, she had had gross hematuria four to five days which cleared spontaneously, and one month prior to admission her local physician discovered a mass in the abdomen which he diagnosed as kidney tumor.

The examination revealed a poorly nourished female child. The abdomen was markedly enlarged. There was a large very hard mass in the right upper abdomen extending up beneath the costal margin

down below the umbilicus and laterally around the back. It did not move with respiration. The urine was entirely negative on repeated examinations. The hemoglobin was 11.0 grams, 4.310 million red blood count. X-ray of the chest was normal. Intravenous pyelograms showed a normal right kidney. There was no excretion of dye from the left, but a large soft tissue mass was seen in the left upper abdomen. A tentative diagnosis of Wilms' tumor was made and she was placed on preoperative x-ray therapy, which she tolerated moderately well. She returned November 18, 1942, the abdominal mass still being present. On November 20, 1942, a left nephrectomy was performed, the kidney being typical for a Wilms' tumor. Postoperatively, she did well. She returned June 16, 1943, with a metastatic lesion in the right lung and received irradiation for this. She ultimately expired on December 30, 1947. Post mortem examination revealed lobular pneumonia of the left lung but *there was no evidence* of metastatic involvement from the Wilms' tumor.

This is the case of a two-year-old girl who lived five years after a Wilms' tumor was removed and who, at the time of death, showed no evidence of recurrent neoplasm.

Case II. A three-year-old girl was admitted to the University Hospitals on July 23, 1942. She was well until five months previously when she developed nausea and vomiting, loss of strength and pep. The mother noted a lump in the right abdomen two months prior to admission. She had no hematuria and no pain. The examination revealed a firm, smooth mass in the epigastrium extending down half way to the umbilicus and over into the right flank. There was also a discrete hard irregular mass about three by four centimeters just above the umbilicus. The urine was entirely negative. The hemoglobin was less than 7.5 with 2.15 million red blood cells. X-rays of the chest, skull and bones were normal. Intravenous pyelograms showed a mass in the right upper abdomen. The pyelograms were normal, but the kidney was displaced downward by a mass lying above the kidney. A tentative diagnosis of Wilms' tumor was made and she was given x-ray therapy. She returned October 9, 1942. The intravenous pyelograms were repeated. These showed marked regression of the mass in the right abdomen and there was no longer displacement of the right kidney. Chest film was still negative. On October 10, 1942, a right nephrectomy was performed which showed degenerated and hemorrhagic remnants of a retroperitoneal tumor of the embryonal type. She did well postoperatively, but expired January 7, 1943.

This is a case of Wilms' tumor where the present-

ing symptom was gastric disturbance followed by the appearance of an abdominal mass.

Case III. A white female, age 23 months, was admitted to the Pediatric Service on April 23, 1947. The following history was obtained: The patient was in good health until one month prior to admission when the mother, on picking up the child, noticed a firm mass in the left upper abdomen. (This is the typical history given by parents in cases of Wilms' tumor.) She was taken to a physician immediately and he advised no treatment. One week later, the patient developed fever (102 degrees) and the local physician gave her some "fever" pills. The fever lasted three days and then disappeared. The patient was then taken to another physician who referred her to the University Hospitals.

Physical examination was negative except for a large firm smooth mass in the left upper quadrant of the abdomen. The urine was entirely negative. X-ray examinations of the chest were negative, no metastasis being demonstrable. Intravenous pyelograms and retrograde pyelograms established a diagnosis of a Wilms' tumor on the left and a normal kidney on the right. This is described as follows: A film of the urinary tract shows a large soft tissue mass in the left side of the abdomen. Following retrograde injection of the contrast medium, there is a good visualization of the pelvis and calices on the right which appear normal. On the left, there is a distortion of the pelvis and calices with displacement of the ureter toward the midline. A diagnosis of Wilms' tumor was made and the patient was given deep x-ray therapy. A total tumor dose of 2300 R was given. The tumor regressed rapidly and was barely palpable on the last day of the treatment, which was about four weeks after the treatment started. The patient was then permitted to return home to come back to the hospital in six weeks for surgery.

She returned to the hospital on July 7, 1947. At this time, no tumor was palpable and an x-ray of the chest was again negative. Intravenous pyelograms now, on July 7, 1947, following the x-ray therapy, showed the following: The renal pelvis and calices are near normal appearance on both sides and the tumor mass previously seen on the left side has disappeared. A left nephrectomy was then carried out on July 11, 1947. The specimen consisted of a kidney weighing approximately 75 grams which showed in the central cortex, a nodule, roughly round, slightly flattened, measuring four centimeters in diameter. A large portion of the cortex and medulla of the kidney had been replaced by tumor. The outer surface is rough and hemorrhagic. The wall of this portion is lamellated in appearance and in

toto is approximately six millimeters thick. The inner portion of the tumor appears to be composed of amorphous necrotic material and blood cells. Multiple sections through the tumor show the capsule to consist of a thick layer of dense hyalinized collagenous tissue which is surrounded by compressed renal parenchyma. Within the capsule are masses of acellular necrotic or hyalinized matrix, in which large clumps of clear foam cells and hemosiderin filled phagocytes are arranged. The center of the tumor consists entirely of acellular necrotic debris. The diagnosis was necrotic tumor of the kidney, presumably Wilms' tumor. No viable tissue could definitely be identified in multiple sections. The patient got along well and has been checked since that time and apparently is thus far doing well. Apparently here we have a case of Wilms' tumor in which the tumor was completely destroyed by deep x-ray therapy.

Case IV. A white female, age 53, entered the hospital on the Gynecological Service on November 1, 1944, complaining of vaginal bleeding. She was in perfect health until two weeks before admission, when she noted vaginal bleeding while taking a bath. She went to her physician who found a vaginal tumor and wished to remove it. Because her daughter was a nurse in this institution, she came to the University Hospitals for further study. There were absolutely no urinary symptoms and her general condition seemed good, although during the past year she had lost some weight. Doctor Randall, the gynecologist, found the vaginal tumor. The lesion appeared to have arisen from beneath the mucosa and extended through it and eroded it. He removed it completely and placed radium about it. This cleared this lesion up completely. The pathological report upon this tissue which he removed was very interesting. It was as follows: "The cells are large and polyhedral with clear cytoplasm. The pattern is suggestive of hypernephroma of genital ridge origin."

Because of these findings, although the original lesion healed, she was referred to the Department of Urology and retrograde pyelograms were made. These were suggestive of either a neoplasm or cyst of the right kidney. There was a very definite deformity of the caliceal system indicating a space-occupying mass in the right kidney substance and a normal kidney on the left side. She was admitted to the Urological Service on January 5, 1945. There had been no symptoms in the interval. The vaginal lesion was completely healed. A nephrectomy was performed on January 8, 1945. This showed a large neoplasm of the lower pole of the kidney which was hypernephroma. Chest film was entirely negative.



This is an interesting case in which the first symptom and sign of a hypernephroma was a vaginal metastasis.

Case V. A white male, age 56, was admitted to the University Hospitals on October 12, 1943. His story was as follows: His general condition had been good. His only symptom had been that beginning about July 1, 1943, he had had several episodes of absolutely symptomless hematuria lasting from one to two days and coming on at regular intervals. There was no pain in the back and no other symptoms or signs. Cystoscopic examination at the time of admission when he was not bleeding, showed a definite papillary carcinoma of the bladder of a low-grade malignancy. It was about an inch and a half in diameter with a rather small base attached to the bladder wall on the right side near the right ureteral orifice. Intravenous pyelograms were made. They showed function in both kidneys and no definite lesion could be seen in them. A diagnosis was made of a carcinoma of the bladder of low-grade malignancy causing the hematuria which the patient had had. On October 23, 1943, a transurethral resection of the carcinoma of the bladder was performed. The pathological diagnosis was transitional cell carcinoma. The patient made a good recovery.

The patient then returned to the University Hospitals on January 12, 1944. He gave the following history: He had gotten along very well until Christmas night, 1943, when he again had gross hematuria. This was seven weeks after his discharge and two and a half weeks before the second admission. Since then, he had noted gross blood in the urine almost every day. There had been no other symptoms. The feeling was, just from the story, that probably a new tumor had shown itself or that there was still tumor present where the previous tumor had been coagulated.

At the time he entered the hospital on January 13, 1944, he was not bleeding. Cystoscopic examination was performed. There was nothing in the bladder from which the bleeding could have come. Therefore, both ureters were catheterized and retrograde pyelograms made. The right kidney was perfectly normal. On the left pyelogram, there was evidence of a filling defect in the pelvis and in the middle and lower calices. A tentative impression was that of papillary tumor of the left kidney pelvis which had produced an implant in the bladder which had first shown itself and had been removed in October, 1943. The patient, the following day, began to have gross hematuria and new cystoscopic and pyelographic examination was made on January 17, 1944. This time the blood could be seen coming from the left ureteral orifice and the pyelogram again showed filling defects in the lower calices. A

tentative diagnosis was made of a papillary tumor of the left kidney pelvis and we felt, as I stated above, that the former bladder tumor was a transplant from the renal neoplasm.

Nephrectomy was carried out on January 20, 1944. This showed that we were dealing not with a papillary tumor of the kidney pelvis, but rather a typical hypernephroma involving the lower two-thirds of the kidney and growing on into the pelvis producing the distortions seen on the pyelograms. The patient got along well and left the hospital on the 18th postoperative day. He returned in April of 1944, several months later, with the story that for three weeks he had been having very persistent headaches. Examination showed choked disk and other evidences of brain metastasis. He died on April 29, 1944, of these.

Case VI. A 64-year-old white female entered the hospital complaining of a lump in her right side and weakness of five weeks duration. No urinary symptoms were present. She has been running a low-grade fever during these five weeks; otherwise there have been no signs aside from a palpable right kidney. General physical examination showed a very mild secondary anemia, a white blood count of 8,200, a low-grade fever and a negative urine. The right kidney was easily palpable and quite movable. Retrograde pyelograms showed a typical deformity indicating a space-occupying mass involving the right renal parenchyma. Diagnosis was made of a right hypernephroma. On February 3, 1944, eight days after admission, a right nephrectomy was performed with definite improvement in her symptoms. X-ray of the chest had been negative. This is a case where the presenting symptom of a hypernephroma was a low-grade fever and a palpable kidney was the first sign.

Case VII. A white female, age 26, entered the hospital on September 20, 1944. She had been perfectly well until five years prior to her admission when she had gross symptomless hematuria. She visited her physician (remember that at that time she was 21 years of age) who made x-rays and could not find the cause of the bleeding. These were apparently simply a series of plain films of the abdomen. Since then, she had had repeated attacks varying from every two to three weeks to three to four times a year. The bleeding was not severe; the attacks lasted from three to seven days and then stopped spontaneously. No other urinary symptoms had been present. Recently, there had been some pain in the right upper quadrant of the abdomen. No pyuria had been noticed.

General physical examination revealed the following: The blood pressure was 130/70 and the

remainder of the examination was entirely negative. The right kidney could not be definitely palpated. Intravenous pyelograms showed a poorly functioning kidney on the right with a somewhat distorted pelvis. The left kidney was normal. The retrograde pyelogram on the right showed incomplete visualization of the kidney pelvis and calices. The upper pole of the kidneys appeared greatly enlarged with elongation and compression of the upper major calyx and hydronephrosis of the lower portion of the kidney pelvis. X-ray of the chest was negative. The following is an excerpt from a letter written to the home physician: "If the tumor proves to be a hypernephroma (it did), it is the youngest we have had in our series here, since she is only 26 years of age and has a history of intermittent hematuria going back six years. This is extremely interesting. Our youngest case of malignant tumor of this type in the adult, is age 30. It will be very interesting to see what the microscopic study of the tissues shows."

On September 27, 1944, a right nephrectomy was performed. A large solid kidney tumor was present. The pathological report upon this was adenocarcinoma of the kidney. The patient has gotten along splendidly since this.

Case VIII. A 62-year-old white female was first seen in the University Hospitals in May of 1943. She gave a story of having had a good deal of bladder irritability, frequency, burning and smarting, and nocturia over a period of several months. Pyelograms and cystoscopic examination were performed to determine the cause of her difficulties. These showed the following: There was a distortion of the upper pole of the right kidney which was suggestive either of a solitary cyst of the upper pole or a hypernephroma involving the upper pole and distorting the caliceal system. In addition to that, she was found to have a carcinoma of the bladder near the left ureteral orifice. This was thought to be the cause of her bladder irritation. This tumor was resected transurethrally and the base thoroughly coagulated. Her bladder irritation cleared up following this, but she continued to have intermittent gross hematuria. She therefore returned in September of 1943 and at that time, new pyelograms were made which showed the same changes on the right pyelogram. The bladder this time was perfectly normal and therefore could not have been the source of the hematuria. Therefore, in September of 1943, the right kidney was removed. This showed a solitary cyst of the upper pole of the right kidney and not a hypernephroma.

Case IX. A white male, 69 years of age, was admitted to the University Hospitals complaining of the presence of a mass in his right shoulder for the

previous four years which had been slowly increasing in size. Examination showed the presence of a poorly nourished white male in no acute distress. On the right shoulder, there was an expansile pulsating mass. On auscultation, a bruit could be heard. There was no evidence of interference with the circulation of the right upper extremity. X-ray examination showed a large osteolytic lesion involving the right clavicle. Intravenous pyelography showed the left urinary tract to be normal; the right urinary tract showed a distortion of the kidney pelvis, typical for hypernephroma.

In this case, there were no symptoms except those of the metastatic tumor. These are extremely vascular and must never be biopsied. A pulsating osteolytic tumor of the bone is, practically speaking, always a metastasis from a hypernephroma.

Case X. A 59-year-old white female entered the hospital on January 28, 1944. She gave the following history. She had been in good health until November of 1943 when she had a fall with trauma to the back. Since that time, she has had occasional severe headache. One week ago, associated with this backache, she had total gross hematuria. This lasted for a few hours and since that time, she has had absolutely no symptoms.

Examination at the time of admission showed her general condition to be good. X-ray of the chest was negative. Intravenous pyelograms showed a normal functioning left kidney with a normal pyelogram on that side. On the right side, although the kidney outline itself seemed normal, there was some distortion of the right kidney pelvis. Apparently the upper pole calyx had become obliterated. This could be due either to tuberculosis or tumor. Cystoscopic examination was therefore carried out. The bladder itself was normal. A catheter was passed up the right ureter to the right kidney pelvis and a retrograde pyelogram made. This showed that the upper calyx filled but was actually a cavity, like an abscess cavity. The preoperative diagnosis was tuberculosis of the right kidney, although no pus was found in that cavity in the upper pole and the bladder itself was negative. Ordinarily, with renal tuberculosis, cystitis occurs and pus is found in an abscess cavity. However, here the kidney outline itself was normal and therefore, neoplasm was not thought of, although a neoplasm of the kidney pelvis could have produced the same effect or a small hypernephroma might not distort the kidney outline on the x-rays and still block off one calyx.

A right nephrectomy was performed on January 31, 1944. Cut section of the kidney showed an epidermoid carcinoma of the kidney pelvis.

The points of interest in this case are that trauma



produced hematuria and this was the first evidence of a lesion of the kidney. The pyelogram was not at all typical for neoplasm. It was rather suggestive of renal tuberculosis. Nephrectomy showed that an epidermoid carcinoma of the kidney pelvis was present.

Case XI. A 53-year-old white male entered the hospital in November of 1943 with an 18-month history of increasing frequency of urination and pain in the left lower quadrant of the abdomen and left flank. This had gradually become worse and there had been progressive tenderness in the left flank associated with chills and fever. There was a progressive loss of weight. Examination showed the patient to be chronically ill with a secondary anemia and evidence of loss of weight. There was a mass that could be palpated in the left flank and this region was very tender. Intravenous pyelograms showed what seemed to be an extrinsic mass impinging on the apex of the bladder but not involving the bladder wall. Cystoscopic examination was performed. The bladder at that time was found to be normal. The right kidney was normal. The left

kidney showed what seemed to be a large pyonephrosis. A great deal of pus and peculiar bloody material was removed from the left kidney pelvis. It was thought to be a tuberculous kidney with a great deal of degeneration. Acid fast smears, however, were reported negative. On November 18, 1943, the kidney was removed and was found to be the seat of a very extensive, highly malignant squamous cell epidermoid carcinoma of the kidney pelvis, with a great deal of tissue destruction.

His postoperative course was complicated by a pneumonia from which the patient recovered. He was discharged in good condition.

However, a few months later, he began to have more bladder irritability and cystoscopic examination at another clinic showed the presence of epidermoid carcinoma in the bladder. He was given deep x-ray therapy for this, but in spite of this treatment, he died of carcinomatosis.

This is a case of epidermoid carcinoma of the kidney pelvis, highly malignant, resembling pyelographically, tuberculosis, and giving the history of an infection of the left kidney.



# The Importance of Lymph Node Metastases in Carcinoma of the Cervix Uteri

A. N. Arneson, M.D.

St. Louis, Missouri

Spread of cervical cancer by direct extension is along pathways of least resistance found in laminations of tissue in the paracervical and parametrial regions. Dispersion to regional nodes and to more distant points occurs chiefly through lymphatics, but can be through vascular channels or beneath neural sheaths. It is significant that Mackenrodt's ligament, which is in the normal path of direct extension, contains the main lymphatic vessels of the uterus.

Lymphatics of the uterus form a network with a plexus that converges near the junction of the corpus and the cervix. From that plexus the main lymphatic vessels pass lateralward through Mackenrodt's ligament to form anastomoses with the so-called primary group of nodes situated in the bifurcation of the iliac vessels. A constant set of lymphatics follow the sacrouterine ligament to form anastomoses with sacral nodes forming a portion of the so-called secondary group. Lymph vessels also follow the course of the ovarian veins to connect with secondary nodes higher in the lumbar chain. That pathway may not be too important for cervical cancer, but does present a rather common method of dispersion for endometrial cancer. The lymphatics that follow the round ligaments are of no special significance, but connections between uterine lymphatics and those of the vagina are sufficiently intimate to bring the vaginal tube into one of the more frequent regions of spread. Many of the metastases in that region are trapped in a plexus about the urethra.

It can be assumed that the iliac nodes forming the primary group are the ones most commonly involved, but the numerous intercommunications make impossible any standard method of spread. The incidence of lymph node involvement is probably greater than is generally believed. Most of the data that are available have been taken from the study of tissue removed at operation, and apply, therefore, principally to the primary group. Autopsy studies have been extended to the secondary group and to more distant points.

There is evidence among patients with invasive cancer limited to the cervix itself that about one out of three will show involvement of the primary nodes. Among those with moderate amounts of parametrial invasion consistent with surgical treatment about 50 per cent show positive iliac nodes.

Involvement of the iliac nodes has a serious effect

upon prognosis. For a specified stage of clinical advance the survival rate for cases with proven metastases is only half that for those with negative nodes. Adequate treatment of lymph node metastases is, therefore, the critical problem in management of cervical cancer. It is believed by some authors that metastatic cervical cancer cannot be controlled by irradiation. The importance of lymph node metastases has been used to emphasize the effectiveness of surgical treatment.

Comparison of surgery and radiation is not easily made. In the attempt to arrive at the relative effectiveness of the two methods one might consider the time factor of reappearance. For both methods of treatment about 60 per cent to 65 per cent of the total recurrence rate will be experienced within the first two years after primary treatment. From 80 per cent to 90 per cent of recurrences to be experienced will appear within the first five years of observation after treatment.

Neither is there any difference to be found in the location of recurrences. For both methods of treatment about one-fourth of all recurrences will appear in the lower pelvis, including the vagina, rectum, and bladder. Approximately half will be found in the upper pelvis in loose cellular tissue lateral to the uterus. That is the region occupied by the iliac nodes.

In the absence of any distinction to be found upon the basis of time intervening between treatment and recurrence, or upon the location of reappearing tumor, there remains only the possibility of comparing statistics. That is a complex problem, and in a previous paper the attempt was made to compare data published by Bonney with that reported by Waterman. The attempt was made to make the comparison upon a uniform type of clinical material. No superiority was shown for surgery.

Mention should be made of the 224 consecutive patients treated with x-ray and radium in our series now available for five year follow-up. In the entire group the survival rate is 37 per cent. Among those falling into Stage I of the League of Nations classification (i.e. with tumor appearing clinically to be confined to the cervix) the survival rate is 73 per cent. One-third of those patients may be expected to have had metastases to the primary nodes. A survival rate in excess of 66 per cent must be attained, therefore, before there is evidence of con-



trol of any lymph node metastases by irradiation.

Stage II of the League of Nations classification includes patients with parametrial extension to but not attached to the lateral pelvic wall, and with or without vaginal involvement of the upper two-thirds of the vaginal tube. Obviously many of the Stage II patients will be advanced far beyond the commonly accepted operable stage. We can expect an incidence of lymph node metastases in excess of 50 per cent. For the Stage II patients in the consecutive series mentioned above the survival rate is 54 per cent. There is, therefore, indirect evidence that lymph node metastases were controlled in some patients.

For Stage III the survival rate falls to 14 per cent, and none of the Stage IV patients have survived five years free of tumors. Clinical advance of the disease, often extending well outside the pelvis, is the principal factor responsible for the poorer results obtained in the more advanced stages.

Prognosis depends upon other factors that can be recognized. The gross appearance of the lesion has a relationship to survival rates. Cancers of the cervix can be rather effectively divided into everting and infiltrating forms. To be sure there are cratered lesions that make such a classification difficult. There is evidence that the cratered types are descendants of the everting types.

Among Stage I lesions it is difficult to classify patients accurately into particular gross forms. Furthermore, survival rates are of such a high value that it is difficult to demonstrate difference in survival rates for patients classified into the various gross

forms of lesions. Among Stage II patients the difference in prognosis is more evident. For that stage the average five-year value is 54 per cent. Of the 38 patients presenting everting lesions there are 27 alive and well five years after treatment. Among 26 patients with infiltrating lesions only five survived that period. Thus it can be seen that prognosis for everting tumors is much better than the average for that particular stage of involvement, and that prognosis for the infiltrating type is far below the average. It is probable that the poorer result for infiltrating forms is due to a greater tendency toward dispersion.

The normal spread of cervical cancer establishes a "theatre of operations" that defines the volume of tissue to be treated adequately. That volume includes the entire uterus and adnexa, all of Mackenrodt's ligament and the regions occupied by the primary nodes, and the upper third of the vagina. Removal of anything less than that volume of tissue constitutes totally inadequate surgery. Applications of radiation that fail to treat adequately the same volume of tissue cannot be expected to control the disease.

Many radiation failures and most of the untoward sequelae that have followed irradiation are due to empirical methods of treatment. Specification of radium dose in milligram-hours implies no information upon tumor dose. It is important to know the distribution of radiation as well as the maximum and minimum tissue doses obtained. Those data must be correlated with biological effects to be expected in normal as well as abnormal tissue.



# Malignant Neoplasms of the Skin

Arthur C. Curtis, M.D.

Ann Arbor, Michigan

I think it is well established now that the melanomas originate from the neural crests and actually are epithelial cells; they are neural epithelial cells and, therefore, if they become malignant should actually be called melano-carcinoma, or melanoblastoma rather than melanosarcoma. One of the things that is always confusing when we see these lesions is to determine whether or not they are malignant, whether or not they are dangerous, whether we should fuss with them or whether we should not. I think that one of the things we ought to keep in mind when we deal with the melanomas is first of all that there probably is no person alive who does not have some place on his or her body a cellular hilus which may or may not be pigmented. Therefore, when one considers the incidence of melanoblastoma or melanocarcinoma which is malignant, one must realize that if we all have lesions of that type there are very few of us who develop malignancies from them.

The second thing, I think, is that if we study these lesions from the point of view of a scatter chart (in other words take the front and back of the body and map out on it the location of these lesions in a large number of people), we will find that malignancy has a tendency to occur with the melanoblastoma mainly in limited areas. These areas are the face and neck where perhaps the exposure to sun, irritation from shaving and so forth irritate them, about the genitalia, about the hands, the palms, the feet (and particularly the soles of the feet) and beneath the nails. So there are certain areas where malignancy is prone to develop and there are other areas where it is much less prone to develop. Possibly that is due to the irritation that occurs in these areas.

Another thing which we know about the melanoma is that it has a tendency to have existed for long times, then suddenly it begins to grow. It may be smooth, it may be somewhat shiny, it often is dark colored and it has about it an air and appearance that look as if it was becoming malignant. I still think there is no better criterion as to whether or not a melanoma is malignant than clinical judgment, for I have seen numerous melanomas sent to pathologists when the clinician had every reason to believe that the lesions were benign, and yet, after pathological study, they were reported to be malignant. I have talked with numerous pathologists about their criteria for the diagnosis of malignancy and each will admit that it is just his opinion. They actually cannot be sure. In those cases where the

lymphatics and the blood vessels are packed with melanoma cells, that is a different matter. But in many of the melanomas that we see it is very difficult for the pathologist to say "that is a malignancy" or "this is not a malignancy."

No melanoma should be treated with x-ray because these cells are not sensitive to x-ray. In fact x-ray may seem to be a stimulus rather than a cure in this disease.

Some of these lesions show a tendency for the pigment to begin to float out from the melanoma itself. Whether there is any direct relationship between the pigment and the malignancy is one of the things we don't know, and yet those of us who have watched these melanomas will often find that as the malignancy occurs the pigment does have a tendency to float out of the melanoma itself. There is an old axiom that if a nevus is hairy it has a tendency to be much less malignant than one which is devoid of hair. That is an axiom which is not always true, for I have seen malignancies in hairy nevi. Nevertheless, many of the ones that we see that we find later to have been malignant are smooth, shiny and often darkly pigmented lesions.

Perhaps some of you have seen in Indians or the Chinese, particularly in childhood, a bluish lesion on the back extending over the pelvis itself, usually over the hips and sometimes extending onto the back. That is known as the mongolian spot. It actually is a group of pigmented nevus cells but not of the epidermal type. Those nevus cells are actually of the connective tissue type. That lesion may exist in some of us aberrantly as the blue nevus which is a sarcomatous lesion, and not a carcinomatous lesion.

The epidermal nevus shows throughout the epidermis islands of pigment and you find the cuboidal nevus cells. These have a tendency to end just about at the end of the epidermis, and for this reason this is sometimes called the junction type of nevus, in other words limiting itself to the epidermis. Again this is the type that is a melanocarcinoma if it becomes malignant.

The blue nevus is almost always a benign lesion. Should it become malignant, however, it becomes truly a melanosarcoma and not a melanoblastoma or melanocarcinoma as does the ordinary pigmented nevus. This, then, is an entirely different type which is probably a vestigial remnant in certain people of the old mongolian spot and therefore has a different origin, a different prognosis and less tendency to become malignant than does the ordinary cellular



or blue nevus or the cellular pigmented nevus that we so commonly see.

I should like to continue with some of the epidermal neoplasms and take up one that is frequently overlooked or thought to be a patch of seborrheic or neurodermatitis. It is seldom thought to be carcinoma. Many times it will occur on various parts of the body; it is erythematous, it has sometimes a little bit of scale, it often has existed for many years in the same area and if you ask the patient who has it he will tell you perhaps that it has been slowly growing. It may be made up of tiny little nodules or it may have a fine thread-like border around its surface. Sometimes as it grows it has a tendency to heal in the center and then be active around the border itself. This epithelioma can be a basal cell epithelioma, which remains in the epidermis itself and therefore becomes an intra-epithelial epithelioma. At times it may be a lesion which is called Bowen's disease, a sharply circumscribed lesion which pathologically shows a tremendous amount of dyskeratosis of the cells and looks like an extremely malignant lesion. The only lesion that is similar pathologically is Paget's disease, and many times it is difficult to differentiate this lesion from Paget's disease. I have seen one example of it where this type of lesion actually was around the area of the nipple extending to the nipple itself and down the ducts. A pathological section through the nipple showed typical Paget's disease and a pathological section through the adjacent skin showed the so-called Bowen's disease—in other words, the two diseases were in the same area and type of skin. This is also a carcinoma but it has the characteristics in practically all instances of the basal cell carcinoma—a tendency to grow by extension and not to metastasize. It can, however, assume fairly large proportions.

Another example of this lesion shows a fairly large irregular lesion of many years standing with a tendency to heal in the center and proliferate around its edges. One of the things that we have often learned about neoplasms is that once a cell is malignant it has a tendency to remain malignant, and yet that is not true in all the instances of the intra-epithelial epithelioma. I have seen some of these lesions where the border itself was entirely active and where the center was entirely scar. A biopsy of the border will show a basal cell carcinoma, the center will show nothing but fibrous tissue covered with perfectly normal epithelium; yet from the story of the case the center at one time was also a malignant lesion. It seems possible, in some of these lesions at least, that as they progress and grow around their border they have a tendency to heal and scar in the center and the epithelium

that eventually covers that scarred area is normal epithelium.

These lesions can be excised, they could be cauterized and curetted, or they can be treated with x-ray. They are perfectly benign lesions in that they have a tendency just to extend in the skin itself. They do not metastasize, and yet at times they can be multiple and many of them can be present in the same individual.

Now I should like to consider another lesion of the skin which is common and that is the lesion that begins in a place of leukoplakia. I think one of the things which we should remember about lesions of the lip, as we should about lesions on the back of the hands, is that if they begin to degenerate and become carcinomatous they are squamous cell carcinomas. One of the things that one notices here is also a thing that is common. We have patients who have leukoplakia on the lower lip but without any leukoplakia on the upper lip. The typical case is a man whose skin is fair, whose hair is red, who has had considerable exposure to the sun, the sun striking the lower lip predominantly and starting the leukoplakic process there. There is no question in the minds of most of us now that in so far as the skin is concerned, the sun is one of the carcinogenic agents as found in nature.

In a recent article by Dr. Fletcher Hall of Santa Monica, he tried to correlate the color of the hair, the color of the eyes, and the character of the skin with the incidence of carcinoma, and his figures showed that the best correlation between carcinoma and one of these three is actually with the color of the eyes. The greatest correlation occurred (about 85 per cent) in the person with blue eyes. Therefore a blue-eyed individual is more prone to develop carcinoma of the skin from light than is the brown-eyed individual, regardless of the color of the hair or regardless of the character of the skin.

Leukoplakia can, of course, occur from other agents too. We know that irritation of any kind, whether it be light, snuff, tobacco, pipe-smoking, cigarette smoking and so on, is certainly one of the causes. That, however, does not explain why women will develop leukoplakia and eventually kraurosis of the vulva, because there is an area which is not exposed ordinarily to irritating elements, and yet leukoplakia does occur and kraurosis does occur and the incidence of carcinoma in those lesions is relatively high. Dr. Miller was interested in that problem not long ago and in several of his cases, after he did a plastic repair of the vulva itself, found that in the areas of skin replacing these that had been removed, it wasn't long until these new areas of skin became leukoplakic too. It was of interest that, during the study which he was making, I also ex-

amined the mouths of those women, and found that there was no correlation whatsoever between leukoplakia of the vulva and leukoplakia of the other mucous membrane. We do not know exactly what it is that causes these lesions in women.

If we have leukoplakia on the lips, we ought to make sure that there is not leukoplakia of the mouth. One individual, I think, demonstrates a cause of leukoplakia on the hard palate. There was thickening of the skin and discoloration of the teeth by tobacco. He was a man who smoked a pipe, the smoke of which would come up against the hard palate, and he developed a rather extensive leukoplakia on the hard palate.

Other individuals again give away their story—one can see the discoloration of the teeth stained with tobacco. One can see the beginning of a definite leukoplakia on the buccal mucous membranes in the mouth. There is no question that some people are more prone to develop leukoplakia than others. It seems to be an intrinsic character and therefore, if irritation comes in regardless of the cause of the irritation, leukoplakia is apt to result.

What should be your attitude in the management of leukoplakia? Should you attempt to destroy it when you diagnose it or should you tell the patient you will have to watch it and have him come in every six months in order to examine the leukoplakic areas and determine whether or not they should be destroyed or whether he can go on for another period of six months? I have taken the latter view in that leukoplakia is precancerous. It is a lesion which may break down some day and show a carcinoma—and often a squamous cell carcinoma. Hence, any area of leukoplakia, regardless of the age of the person, should, if there is any doubt, be biopsied and studied pathologically to determine whether or not the area has already become malignant. If one can be fairly sure that the area has not changed, that there are no thickened areas greater than the surrounding tissue, that there are no nodules in the area, I think one can safely say, "You can let that go for another six months but should any change occur in it, you let me see it." I have followed some fairly extensive cases of leukoplakia for many years without seeing any degenerative changes in those areas. On the other hand, if there is a little area of ulceration, or if there is a little tendency for tumefaction, it should be immediately biopsied, and if found to be malignant of course the entire area should be destroyed or treated with roentgen therapy.

We have a patient who is a fairly young man who presents several things that one can see objectively. In the first place his tongue looks a little larger than the normal tongue. In the second place he has

disturbing leukoplakic areas on the tongue itself. The third thing that one can see is a definite nodule, and there are also rough and jagged teeth which are a source of trauma, with a resulting ulcerated lesion and a perforated area which looks like an ulceration below that patch of leukoplakia. This man has a gumma of the tongue, and gummatous tongues are made up of nodules in the tongues themselves.

Many times in a gummatous tongue (which is an asymptomatic tongue as far as the patient is concerned) leukoplakia will follow, and after leukoplakia carcinoma. One of the things that always crosses my mind when I see rather extensive leukoplakia of the tongue is this. Does this patient have a gummatous tongue, and how do I know that? First of all, gummatous infiltration of the tongue causes the tongue to be somewhat larger than normal; secondly, one should always palpate those tongues because if they are palpated one will not only be able to feel larger nodules than in this case one could see, but one will also feel nodules all through that tongue. Thirdly, one ought to take a serological test, and fourthly, one ought to keep in mind that a long standing gummatous tongue is a precancerous tongue.

For a period of time, we did neck gland resections routinely in all malignant lesions of the lip. I don't think that was a particularly good idea because the incidence of involvement of the neck glands was only between five and 10 per cent. We did away with clinical judgment entirely. Since that time we have been a little more conservative; we have allowed the physician to be a physician and prognosticate whether or not he thought metastases had occurred after an examination of the lesion, determination of the grade of malignancy of the lesion, and palpation of the neck glands. By so doing, using selected cases, we have now increased our ability to prognosticate the presence or absence of neck gland metastases in a fairly good percentage of our cases—better than 75 per cent. We do not do routine neck gland dissections now in those cases where we have reason to believe that the lesion is relatively early, where there is no regional adenitis, and from our clinical judgment the lesion is early enough so that metastases are relatively unlikely.

On the other hand, when one gets a patient with a fairly large carcinoma of perhaps two or three years duration, one may and often does, find definite metastases in the neck itself. Of course in those cases the neck gland resection should be done along with treatment of the primary lesion whether it is by surgical excision or roentgen therapy.

A squamous cell carcinoma which begins in a senile keratosis has large amounts of hyper-keratosis, but at the base of it you will find a squamous cell



carcinoma of relatively low malignancy. These lesions are frequently of many years duration, and sometimes if they are allowed to grow untreated they form enough keratosis that they become cutaneous forms. They almost always are much less malignant than the ulcerative lesions that one sees in the neck or the lip, but nevertheless they are squamous cell carcinomas. In many instances, however, as there are no metastases, these lesions can be treated locally and the results are much better than they are in the more rapidly growing lesions. These cutaneous forms can occur in any location.

Carcinoma of the tongue, as you all know, is one of the worst lesions that we have to treat. Some occur without any evidences of a leukoplakia. Metastases may occur in the neck glands or they may be back in the planes of the tongue, and hence one cannot be sure whether dissection of the glands in the neck, with the hemi-destruction of the tongue surgically or by x-ray therapy, is adequate treatment. Time is the only method that we have to tell whether our treatment has been successful.

It is usually a rule to assume that those lesions which occur on the face above the line of the mouth itself are basal cell carcinoma. An example of such a carcinoma is sharply circumscribed, has a definite pearly border and sometimes a dome surface or sometimes an ulcerative surface. It is a lesion which grows by extension, and consequently a lesion which, if handled properly, will give excellent results. One of the things that we forget so often, however, in dealing with the basal cell carcinoma is that the lesion, though it looks sharply circumscribed, may have little projections of epithelial cells going out into the subcutaneous areas which may start new islands of basal cell carcinoma around the borders. That is why it is wise in the treatment of these lesions to make sure that one goes out well around the border of the lesion itself, whether it be for a surgical excision or cautery destruction or for x-ray therapy. Dr. Moe of the University of Wisconsin, as you know, has had the opportunity to follow some of these by using fixation in situ. He can pick out these little ramifications of the basal cell epithelial prolongations and has been able to follow them out quite a distance from the original focus—with this information he has destroyed the entire lesion.

Clinically you cannot always be sure that these are basal cell lesions because there is a medial cellular carcinoma which occurs frequently above the lip, and probably it is not a true combination of basal and squamous cell. It probably is a tumor like the basal cell carcinoma which arises from the appendages of the skin such as the pilus sebaceous apparatus. Its prognosis is not the prognosis of squamous cell carcinoma, as it does not metastasize

to distant areas through the lymphatics or blood stream, but has a tendency to grow by extension like the basal cell carcinoma. Therefore, it should be managed just like the basal cell carcinoma.

One of the problems that we have in managing basal cell carcinoma is that of lesions near the eye itself, perhaps extending to the mucous membrane of the eye or even down on it. One is confronted with a therapeutic problem here. If we treat this surgically may we not produce an ectropia, or destroy the papillae so that tearing will occur from the corners of the eye? If we treat it with x-ray are we going to destroy the papillae itself and the duct that leads into the nose to drain off the tears? I believe there is adequate evidence now to state that if we treat these patients by x-ray, exposing adequately beyond the margins of the lesion itself but covering the eyeball with a silver sheet, and if there is not already carcinomatous infiltration into the duct itself, we will not destroy the duct. Therefore, in lesions of this type it is my humble opinion that the best treatment we have is x-ray and not surgical excision.

Another lesion of course that we are confronted by is the lesion that may be along the ala of the nose. This is a fairly deep lesion. If we are going to destroy it what is going to happen to the cartilage? Is the cartilage going to be affected, and if the cartilage is affected is that going to have any permanent effect on the nose? This lesion too can be destroyed by x-ray and I have not had, in my experience at least, any changes that I thought were important in the cartilage of the ala from roentgen therapy. This lesion can also be treated surgically, but to me x-ray in such an area is the best form of treatment.

We recently saw a man who was red haired, an Irishman who lived in the northern part of the state. He lived in the woods and had multiple carcinomas all over his face—senile keratoses, a basal cell carcinoma, and a squamous cell carcinoma with metastases in his neck. In other words, he had almost all the types that one finds on the skin. He had done nothing about them and said he was old enough that he didn't think they would ever kill him, yet he had metastatic lesions when he was treated at the hospital. He is a man who illustrates the fact that after the skin begins to degenerate, it may degenerate into both basal and squamous cell lesions. And he is an individual too who had many methods of treatment. The senile keratoses were excised surgically, other lesions excised or treated with x-ray, and a neck gland resection was done on one side. Many times it is necessary to use several forms of treatment in order to give the patient his best chance.

When we see a basal cell carcinoma which has

been neglected or poorly treated to begin with, and has extended to adjacent areas or even into the external auditory canal—even deeply enough so that it involves periosteum or the outer table of the bone—we have a therapeutic problem of some importance. In such a case the best thing that one can do is to treat the entire area with x-ray.

Lesions on the hand are squamous cell carcinoma in practically every instance. They are commonly in red haired, fair-skinned individuals, associated with senile keratoses. These are lesions which should not be neglected. They have a tendency to remain in situ for a long period of time before metastases occur, but metastases can and frequently do occur and therefore one of the things that one should always do is to examine the epitrochlear gland and the axillary glands in people who have lesions of this type.

Again the hands of individuals who have had too much roentgen exposure may show telangiectasia, atrophy of the skin, multiple senile keratoses, and squamous cell carcinoma. There are also changes in the nails that are characteristic of roentgen changes. These are not always physicians; occasionally they are individuals who have had too much x-ray treatment by a physician for dermatitis of the hands over a long period of time and developed these roentgen changes that eventually led to carcinomatous degeneration.

If the carcinoma of the hand is poorly treated or

neglected it can produce an extensive squamous cell carcinoma that may require an amputation of the hand itself, with extensive resection of the glands in the axilla and epitrochlear region, with still a chance that none of it is enough.

Another of the things that is definitely carcinogenic is arsenic. In the area where I live where there are orchards, arsenate of lead is one of the forms in which patients get arsenic. Again Fowler's solution and the Asiatic pill are still used considerably in the treatment of disease, and there are several proprietary medicines on the market which contain arsenic. Things for which we ought to search when we see an individual who has a carcinomatous degeneration of his skin which we suspect might be due to arsenic, is the typical rain drop pigmentation which is often associated with it and the punctate keratoses on the palms and soles.

To differentiate from these we have carcinomatous degeneration in the scar of some previous disease such as lupus vulgaris that has healed. It may be a long standing, chronic, destroyed, lupus erythematosus which has resulted in carcinomatous degeneration; it may be in the scarring that occurs following an actinomycosis which has been destroyed in early youth, and which has left a scar. It may be carcinomatous degeneration in an individual who has had roentgen therapy—even 15 or 20 years previously for such ill advised reasons as epilation.





# Cancer of the Breast

Herbert Willy Meyer, M.D.

New York, New York

It is with great pleasure that I am here to discuss a subject of prime importance to all of us, physicians, surgeons, graduate students, undergraduate students, and the laity. Carcinoma of the breast is the most common malignant disease in the female sex, and second comes carcinoma of the cervix. We have had a most excellent presentation this afternoon on what should be done for the latter.

If doctors would only consider every patient who comes to them with a lump or a bump in the breast to have a cancer, we would make many earlier diagnoses. If we would prove either that it is or is not a cancer of the breast many more would be saved.

The American Cancer Society is making a strong effort to discuss the problem with the laity and make them cancer conscious. In the majority of instances this is a good thing, as only a few people get cancer phobia. The Society is also extremely interested in the education of the undergraduate student, the graduate students, and the residents in the hospitals. They are especially interested in discussing these problems with our confreres, the doctors who are in practice, the doctors who see these patients first. The cancer detection clinics that are being organized all over the country, I believe, will eventually be discontinued, as soon as they have fulfilled one of their main purposes, namely, to draw to the attention of the doctor in his office and in the clinic the fact that he must ever be cancer conscious. Every doctor can be a cancer detection clinic by himself if he will be cancer conscious, and actually perform a thorough and complete physical examination himself. The importance of this thought I can impress upon you with two experiences I have had in the past few weeks.

Two fine women in their early 50s came under my care with advanced, almost hopeless carcinoma of the breast, and both had been under the care of physicians. They had not neglected themselves. They had gone to their doctors and in one instance the doctor followed his patient for three and a half years with a lump in her breast. She was going through her menopause and the doctor told her all women at the time of the menopause had lumpy breasts. "Go home and forget about it." She would return to him and ask him, "Are you sure, doctor, that this is not a cancer?" He would say, "Oh, don't worry about it, it's not a cancer."

The other lady developed a thrombosis of a vein just under the skin in the upper outer portion of her

breast. She went to a doctor five months ago, and the doctor, realizing that it was a thrombosed vein and feeling a swelling in the axilla behind the border of the pectoralis major, said that it was an inflammatory mass. The thrombosis of the vein he thought was the result of inflammation. He put her on penicillin for a long period of time. She asked him, "Are you sure it isn't cancer?" He said, "Of course not. The vein will re-canalize, the swelling will slowly disappear and you are going to be all right."

Two days before New Year she was going to leave for Florida. She was worried about the swelling and wanted to see the doctor again. He was away on a short holiday, and she went to his associate. He immediately was suspicious that the lump under her arm might be a cancer, and he sent her to a surgeon. The surgeon saw this patient and he also was suspicious of a carcinoma. When finally I had to operate upon her, about 10 days ago, it was practically a hopeless case. All of the nodes in the axilla were involved with carcinoma right up to the very apex and the primary tumor in the breast was only as big as the nail of my little finger. She had large, fat, pendulous breasts, and it was only with the greatest difficulty that we could find the primary tumor on palpation. The metastatic node mass in the axilla had been the cause of the thrombosis of the vein.

Both of these women had been under the care of doctors. We doctors assume a tremendous responsibility if we tell a patient with a lump in the breast to go home and not worry about it, to forget about it.

Naturally, not every lump and bump in the breast is a cancer, and we must consider the various possibilities of differential diagnosis. I do not want to take too much time to go into the various points of differential diagnosis in detail, but I do want to mention a few of them and to draw to your attention the importance of what we should advise the patient to do.

First of all, the inflammatory conditions in the breast. There we have acute and subacute inflammation, tuberculosis, specific disease, syphilis, the mycoses, and such conditions as Boeck's sarcoid or plasma cell mastitis. Then we have the congenital abnormalities of the breast, where we have asymmetry of the breasts, which we can find out by a careful history. We may have the hypertrophy of the breast and a very important point, the supernumerary nipples and breast gland tissue which can

occur anywhere along the nipple line. Above all we have the accessory mammary gland tissue that occurs in the axilla behind the pectoralis major muscle, in which carcinoma not so rarely develops. When it does develop in this accessory mammary gland tissue in the axilla, it is usually serious and more malignant than the carcinomas in the breasts themselves.

We then have the functional disorders. Anyone who works in a breast clinic knows that the majority of patients who come, come because they complain of pain in the breast and it is the pain in the breast that usually does not denote malignancy. It is called mastodynia, or pain in the breast, and upon careful examination, lumpiness usually just before the menstrual period is found. It disappears after the menstrual period, and all we have to do is to reassure the patient, have her put on some hot compresses and tell her to wear a well fitting brassiere.

We also have the benign tumors that occur between the skin and the breast. Those are the lipomas, the fibromas, and the hemangiomas. Surgical excision is naturally indicated.

We then come to the other benign tumors that occur in the breast. I will rapidly go over them: fibroadenomas, single, discrete, like marbles. You can roll them under your fingers. Always advise excision. They occur in young women. Never leave them there, but if you excise them, gentlemen, especially if you should do it in your office, never throw the lump in the pail. Every specimen that you ever remove from any part of the body must be examined pathologically. We then come to adenofibrosis, or fibroadenosis, which some doctors call adenosis of the breast. Formerly we called it Shimmelbusch's disease. It presents disseminated swellings in the breast, often with a sharp margin at the breast margin, which you can usually lift away from the chest wall as if you lifted a saucer away from the chest wall. The patients always complain of pain and tenderness, and you immediately become suspicious and know that it is probably not a carcinoma. This is a condition that can improve with pregnancy and lactation, just the opposite of carcinoma, which is made worse by pregnancy and lactation. Here occasionally local excision of the area, if troublesome, is indicated. Once in a while simple mastectomy becomes necessary. This condition usually occurs in the small atrophic, non-fatty breast.

Then we have the giant mammary myxoma. It is the condition that Johannes Müller described years ago as cystosarcoma phyllodes and occurs with sudden rapid growth of a tumor which has been present in the breast for a long time. A fibroadenoma that has been present for many years and then suddenly begins to grow into a big bulky mass should make

one suspicious of cystosarcoma phyllodes of Johannes Müller, the giant mammary myxoma. Simple mastectomy with careful histological examination will relieve this condition.

Then we come to the simple cysts. The simple cysts are caused by blockage of the ducts. If they are filled with dark fluid, they are called blue domed cysts of Bloodgood. Aspiration of a cyst, as taught by some doctors, is a perfectly legitimate method of treatment. The cyst will collapse and in many instances will not recur. But, I warn you of two facts. If you aspirate a cyst of the breast and find bloody fluid, think of the fact that you may have a carcinoma in the wall of that cyst, or if you aspirate the cyst and it collapses and you examine immediately afterwards and still find an induration in the breast in the region of the simple cyst, you may have a carcinoma. Therefore, personally, I always excise a cyst so that I can obtain a histological examination and can carefully examine the breast in the region of the cyst at the time of the operation.

Now a few words about what we used to call chronic cystic mastitis. A better term is cystic disease of the breast. Cystic disease of the breast is often bilateral. It usually occurs in the upper outer quadrants of the breast and the ducts are filled with debris and with hyperplastic epithelium. As the disease goes on, patients complain of pain in the breast. The cysts that develop may be from two to three millimeters in size up to three to five centimeters in size. As you examine those patients, make a careful notation on your chart of the location and size of the infiltration. Never tell the patient to go home and forget about it, but always tell her, "I do not believe that you have carcinoma. There are none of the clinical signs of carcinoma, but you have an abnormality in the breast and I must re-examine the breast every three weeks at the beginning, later every six weeks, and then follow it every two or three months."

If the area of induration of cystic disease persists, I always advise segmental resection of that breast, like cutting out a piece of pie, suturing the breast together and obtaining a most careful pathological examination. If the pathologist reports that there is marked hyperplasia in the lining of the ducts or in the lining of the cysts, we may then have a precancerous condition. As Warren of Boston has shown, there is a higher percentage of later development of carcinoma in the breasts that contain cystic disease if we have marked hyperplasia.

With intra-ductal papillomas, the patient comes complaining of a little serous or bloody discharge on the brassiere or nightgown. With careful examination you usually find a small swelling directly under the nipple and the areola. You may be able



to feel the swelling, namely the papilloma, inside of the dilated duct. It is the one condition where transillumination of the breast is of real value. With a good transilluminator, like the Cameron breast transilluminator, you may be able to see the dilated duct with blood in it. It will help you to know where to make the incision in order to dissect out that duct with the papilloma. This procedure will cure the patient. If there is bloody discharge and you cannot find the duct with the papilloma but by gentle pressure on the different segments of the breast you see where the bloody discharge comes out of the nipple, then occasionally you are forced to remove that sector of the breast, and follow with a most careful pathological examination. Or, if you have a persistent bloody discharge from the nipple without palpable tumor and you cannot find the segment or quadrant of the breast from which the discharge comes, and especially if it is dark bloody discharge and the woman is in the cancer age, you must strongly suspect the presence of a duct carcinoma. A simple mastectomy is indicated with almost serial section examination of the breast by the pathologist. Frequently a carcinoma is found and you will then immediately go ahead with the radical operation.

Finally, a few words about traumatic fat necrosis and plasma cell mastitis. They are included in the differential diagnosis. Traumatic fat necrosis usually occurs in a large fatty breast with a history of injury and ecchymosis and a following tumor in the breast. With that history, no retracted nipple, no adhesion of the skin, and no axillary lymph nodes, think of traumatic fat necrosis. Simple excision with pathological diagnosis will cure the patient.

The condition of plasma cell mastitis has been described by Adair, Cutler, Ewing and other authors. Here you have the history of an inflammatory condition of the breast with local redness but not during lactation. When redness and inflammation subside, a tumor in the breast remains at that site with all the clinical signs of cancer, a retracted nipple, adhesion of the skin, edema of the overlying skin, and axillary lymph nodes. However, you have the history of previous inflammation and redness in a non-lactating breast. Then think of plasma cell mastitis and do a local excision with a careful pathological diagnosis to be sure you are not dealing with carcinoma.

Finally we come to Paget's carcinoma of the breast. If there is ulceration of the nipple of long duration, especially if it is in a young person, it may be a dermatological problem. Always do a Wassermann. But if the history is of short duration, and there is ulceration of the nipple, think of Paget's carcinoma which develops in the ducts directly underneath the nipple. The malignant Paget's cells grow outward along the ducts onto the surface, and

with disturbance in nutrition and circulation of the nipple, ulceration occurs and one has all the signs of Paget's disease or Paget's cancer of the breast. This is a malignant condition which metastasizes early to the regional lymph nodes and requires radical mastectomy.

This then brings us to our main subject, namely "Cancer of the Breast." At the present moment, gentlemen, more lives are saved by radical mastectomy than by any other method of treatment. Let us remember that! Early diagnosis is vitally important, and let us also remember that 50 per cent of all cancers of the breast occur in the upper outer quadrant, in the same area where cystic disease is so prevalent. To make the diagnosis of cancer of the breast is a vitally important subject, just as important as the operation itself. The technique of the examination is as important as the technique of the operation, because with both procedures we can seal our patient's fate, especially if improperly executed.

Unfortunately pain is not an early symptom. The patient usually discovers the painless lump in the breast by accident. We can frequently make the diagnosis of cancer of the breast upon inspection alone, and that is a vitally important point. We can at least become so suspicious of cancer of the breast by inspection alone that we hardly have to palpate the breast in order to confirm the suspicion. And why is that so important? Because, the gentleness of examination is so important. Frequently in cancer of the breast, tumor cells are present in the lymphatics. There may also be tumor cells within the blood vessels, because the tumor cells grow through the wall of a vein into the lumen of the vein. They never grow into the lumen of an artery. If the tumor cells are in the vein, and if by rough examination you break off two or three of those tumor cells from the tumor thrombus in the vein, then those cells become tumor emboli and float into the blood stream. No matter how you then treat that carcinoma locally, either by x-ray or good surgery, the patient's fate is sealed, because there are already distant microscopic metastases, which at present we have no method of diagnosing or detecting. The physician, by his examination of the breast, may possibly have brought that about.

Similarly, with the present teaching that women should periodically examine their own breasts in order to discover lumps, we must always add that if the woman examines her own breast she **MUST** examine it gently, because one can readily see that a woman, by her own examination, being worried and afraid, can break off tumor cells and spread them into the lymphatics and into the blood stream.

By inspection of a patient you observe the level of the nipples, which way the nipple points, whether

you see a swelling in the breast. If the patient puts her arm up over her head in good light, you may see the swelling, you may sometimes see the little dimpling of the skin, and you immediately become suspicious of the presence of a carcinoma. If you have the patient bend forward and let the breasts hang away pendulous from the chest wall in good light, you may also sometimes see the swelling, you may see the dimpling of the skin and again may make a tentative diagnosis of cancer of the breast. Then you observe whether there is any edema, which is called *peau d'orange*, of the skin.

Following inspection comes palpation, and this again must be most gentle and light. The patient first lies down with the arm up over the head, putting the pectoralis major muscle on the stretch, inclining the body a little bit to the opposite side so that the breast flattens out against the chest wall and you can then divide the breast into four quadrants. Take a little bit of talcum powder and sprinkle it on the skin of the breast, and starting at 12 o'clock with the lightest touch you draw your hand over the breast from the periphery towards the nipple. Then with the same maneuver you examine the various quadrants, at one o'clock, two o'clock, three o'clock, etc. You will find that your fingers will glide over the skin easily on account of the talcum powder. You will feel how your fingers come up over a little swelling just as you go over the crest of a mountain in an automobile. So you can make the diagnosis by the *gentlest* of examination.

Then you examine the nipples. You first draw one forward lightly and then the other one forward lightly and by comparing the two you can tell whether one is being held down a little bit more than the other. If you find that one nipple is being held down, you know that you are probably dealing with carcinoma. If by taking the overlying skin very gently and rolling it with your fingers over the swelling that you have discovered, and find you cannot roll the skin, or if there is any puckering of the skin, you will know that the skin is being held down by the septa that go from the skin down to the breast gland and the tumor. This will give you further confirmation of a suspicion of a carcinoma.

Naturally always examine both breasts. Then carefully examine both supraclavicular fossae for lymph nodes. After that the patient may sit up. By gently laying the breast on one hand, you may gently palpate with the other hand to confirm the findings with the patient lying down. Never take the breast in your hand and squeeze it and thereby pump tumor cells into the lymph vessels or into the blood vessels.

The examination of the axillae should also be gentle. Remember that we are correct in only about 30 per cent of our preoperative examinations of the

axilla. That has been shown in various papers that have been written. If the axilla contains much fat, unless there is a fairly large, and therefore late, advanced metastatic lymph node, you may miss the tiny little nodes, which, however, may be solidly replaced by carcinoma. You cannot feel those small nodes with your fingers. The examination of the axilla is performed by *gentle* palpation with the flat hand and fingers against the chest wall with a forward and backward, and upward and downward stroke.

Naturally a complete physical examination is most important. Never fail to do a rectal and vaginal examination. We have seen patients with a lump in the region of the breast which proved to be a secondary metastatic deposit from a carcinoma of the cervix. If one performed a radical mastectomy on such a patient without having done a vaginal examination and a speculum examination, how embarrassed one would be to later receive a report of metastatic cervical carcinoma.

X-ray examination, if available, should always be done. The chest should be x-rayed. If the tumor is in the inner quadrants of the breast, also do a lateral x-ray view of the chest. In these cases there may be enlargement by metastasis of lymph nodes in the anterior mediastinum. We have been able to make a diagnosis of a metastasis to an anterior mediastinal lymph node of the internal mammary series of nodes on the lateral x-ray view. Scout films of the skull, the spine, the pelvis, and the long bones should be done if possible and available. Always remember though that a negative x-ray report does not mean that microscopic metastases are not present. It just shows that there is no far advanced metastatic carcinoma.

Now a word about biopsies. There are various methods of doing a biopsy. At Memorial Hospital in New York they have developed a technique which in their hands seems an excellent method of doing a biopsy. This is the aspiration biopsy. In their hands and with their pathologists and with their team work, it apparently works out well. A small nick is made in the skin and an 18-gauge needle with obturator is introduced into the tumor. With a well fitting 20 cc. Record syringe, aspirations are made in one, two, or three directions. The aspirated material is expressed onto a glass slide and a smear made. This is stained and examined.

Personally, we think that we would rather teach the profession as a whole all over the country to excise the entire tumor, if small, using a cautery knife, if you have one available, to go through the skin and through the breast, sealing the lymphatics, and taking the fascia over the pectoralis major muscle along.



If a pathologist is available have him in the operating room, and then let him cut across the tumor, and, usually nine times out of ten, you can make the diagnosis on gross pathology, which is then confirmed by frozen section examination.

If a pathologist is not available, then send the specimen to the nearest pathologist as quickly as possible, tell him that you want a report in 24 or 36 hours, and if it is a carcinoma he should telephone or telegraph to you, so that the radical operation may be performed as quickly as possible after the diagnosis has been made. If the tumor is large and bulky a section may be cut out of the tumor, the wound then swabbed with pure carbolic acid, and the skin sutured. The biopsy incision is always sealed.

What must the surgeon know if he is going to operate for cancer of the breast? He has to know the lymphatic drainage area of the breast and where the cancer cells can spread. They spread either by way of the lymphatics or by way of the blood stream. The surgeon must know the principles of the radical operation. These principles were laid down 56 years ago, independently, by Halsted in Baltimore and Willy Meyer in New York. This was in 1894, and those principles of the radical operation are as true today in 1950 as they were in 1894.

And what are they? Wide excision of the skin, thin skin flaps, the removal in continuity of the breast containing the tumor, with the regional lymphatic field, which means the pectoralis major and minor muscles, the meticulous dissection of the axilla by *sharp* dissection, with fine surgical forceps and a very sharp scalpel, removing the sheath of the axillary vein, dissecting the subscapular space way up behind the axillary vessels, preserving, if possible, the long thoracic nerve of Bell and the thoracodorsal nerve, but sacrificing them if involved in tumor tissue, taking the fascia over the latissimus dorsi, the subscapular and serratus anterior muscles and the intercostal muscles, dividing the fibers of origin of the pectoralis minor, then going to the opposite side of the sternum and removing the fascia from the opposite pectoralis major where the perforating vessels go through to the mediastinum, dissecting from the opposite side across the sternum and ending by dividing the fibers of origin of the pectoralis major and dividing the perforating vessels on the side of the lesion. Personally, we take the anterior sheath of the upper portion of both recti muscles. The wound is then flushed with saline and closed. If the flaps cannot be brought together, a Thiersch skin graft is immediately placed on the defect and a proper kind of dressing applied. Those are the principles of the radical operation.

Now another vital chapter. What are the princi-

ples of good cancer surgery technique? Let us remember that any surgical procedure must be performed with good technique, but it is not as vital for the future of the patient and the life of the patient as the technique required when we operate for cancer. When we operate for cancer there is great danger of cancer cell implantation in the extensive wide open wound. If cancer cell implantation occurs in a radical mastectomy we will experience early local reappearance of carcinoma in the field of operation. If one employs careful cancer surgery technique one can prevent this to a large degree. In our own cases we experience less than six per cent of local reappearance in the field of operation. Our patients who die following radical mastectomy die more frequently from distant metastases, not of local reappearance. What are these principles?

Number one, cover the clock in the operating room. It does not make any difference how long the operation takes as long as you do a meticulous operation, have good anesthesia, blood transfusion available, and do not leave a good deal of dead tissue in ligatures. Cushman Haagensen at the Presbyterian Hospital in New York makes a very apt remark, which I like to repeat, because it brings a message. He does not mean it literally, but it brings a message to the profession who operate for cancer of the breast, and he says, "An operation a day keeps the cancer away." Now what he means is, no matter how long the operation takes, we have a job to do and we have to do that thoroughly and carefully.

Secondly, never put a sharp retractor on the tumor side and then on the tissue side. You may implant cancer cells. Frequently change the scalpel. Cancer cells have been recovered from the edge of a scalpel. Frequently wash your hands in the wash basin and have the basins changed, because Dr. William Crawford White of Roosevelt Hospital in New York has proven by centrifuging the solution water in the basins that cancer cells are present in the wash water in which you wish your gloves. Never use a hemostat a second time without washing it and re-boiling it, because on the end of the hemostat, where you clamp a blood vessel, there may be cancer cells.

Keep the field covered. Expose only the small field you are operating on, and cover the remainder with large laparotomy pads. Finally, do not have tens of hemostats on the tissues, because the assistant, by moving those hemostats back and forth, with the weight of those hemostats may press tumor cells into the lymphatics and into the blood vessels. Stop frequently and ligate, getting rid of the hemostats. Use the cautery on the tumor side, and cotton or silk on the tissue side for hemostasis. This

saves time. These are the principles of good cancer surgery technique and they are as important as the diagnosis and any method of treatment.

I must also say a word about the criteria of operability. This varies greatly with different surgeons and clinics. There is unfortunately no common denominator of criteria of operability and therefore it is difficult to try to interpret the statistics as published.

We try to operate upon every case in which we think that we can adequately remove the cancer field in continuity. We include those cases that have skin ulceration and those that have axillary metastases, even nodes that are fairly large, and in certain of these cases the axillary vein also has to be resected.

There are certain contraindications to the radical operation. These are:

1. The inflammatory type of carcinoma with redness of the skin, marked *peau d'orange* and edema of the skin of the breast and the arm. Harrington of the Mayo Clinic, however, has recently reported some surprisingly good results with radical mastectomy in this type of case.

2. Metastatic skin nodules at a distance from the tumor—the so-called cancer en cuirasse.

3. Extensive supraclavicular lymph node metastasis or involvement of the opposite axillary nodes.

4. Carcinoma of the breast during pregnancy or lactation, although Adair and Harrington have recently reported remarkably better results in some of these cases operated by the radical operation.

5. Evidence of distant metastases, especially skeletal or visceral, unless a local palliative procedure is decided upon.

Now let us turn to some lantern slides. This slide shows accessory mammary gland tissue which may occur from the axilla through the nipple down on the abdomen to the pubis to the inner side of the thigh where you may have accessory mammary gland tissues.

In these slides you will see the lymphatics studies of Oelsner, Most, Sappey, and Proirer and Cuneo. These we must know. The breast drains toward the midline down towards the abdomen, then out toward the axilla where the lymphatics run between the pectoralis major and minor muscles to the lymph nodes that lie along the subscapular space, and then into the axilla from the latissimus dorsi as the outer landmark to the very apex of the axilla. These lymph nodes lie and are attached to the sheath of the axillary vein. A lymph vessel runs along the cephalic vein to a lymph node which lies between the deltoid muscle and the pectoralis major. On cross section you can see, and this is a very important point, that in

tumors of the inner half of the breast the cancer cells may pass with the perforating vessels and enter the lymph nodes that lie in the anterior mediastinum along the internal mammary vessels. From there they can go along the intercostal muscles to the posterior chest and to the nodes that lie along the vertebral column and then in front of the vertebral column from where they can go to the lungs. From the outer portion of the breast the lymph vessels go into the axilla.

Sappey has shown many years ago, recently confirmed by the son of Sampson Handley in England, that important lymph nodes lie in the anterior mediastinum especially in the second, third and fourth intercostal spaces along the internal mammary vessels. Handley has shown that these nodes are frequently involved in metastases. Recently he has been making an incision in the second intercostal space, early in the operation, especially in tumors in the inner half of the breast, and has exposed these lymph nodes and taken them out. If metastases were found by frozen section he has not continued with the radical operation. Sappey has also shown that lymph vessels go along the intercostal muscles and enter the lymph nodes that lie along the vertebral column and from those lymph nodes cancer cells can directly enter the thoracic duct and pass up the thoracic duct and enter the circulation. You may readily see how easily and quickly metastases in this part of the body can develop.

Geschickter has written one of the best books on breast diseases. I will show you one of his excellent charts, which shows how important it is in the radical operation to remove the pectoralis major and minor muscles because Rotter's node lies right in between the two muscles with many lymph vessels. Here are the lymph nodes along the internal mammary vessels and here the lymph vessels that go down to the falciform ligament, showing the importance of removing the anterior sheath of the recti muscles. Here are the lymph nodes in the subscapular space and along the axillary vein. We must also know anatomy. No surgeon should operate for a carcinoma of the breast without reviewing the anatomy, especially if he performs this operation only occasionally. He must know immediately exactly where he is, and what each structure is, which one he can sacrifice and which he should try to preserve.

This is another valuable chart from Geschickter's book. Anybody who sees a lot of breast disease, who will study this chart, will quickly realize its worth. It shows the solitary tumors, the soft tumors, the multiple diffuse tumors, the firm tumors, those that occur in the periphery of the breast and those



in the central portion of the breast. The black little circles over the nipple denote bloody discharge from the nipples, the clear circles denote serous discharge. A careful study of this chart will teach innumerable, valuable points in diagnosis of breast diseases.

These slides show carcinoma metastases in a lymph node, carcinoma cells as a tumor thrombus inside of a vein, a carcinoma metastasis in the alveolus of a lung, the embolic spread I have spoken about.

The late Jonathan Wainwright of Scranton, Pennsylvania, in the 1920's, proved in these sections of the entire breast how important it is to perform the operation in a radical manner. In this section you see the nipple, the carcinoma, the dilated ducts and stasis; here you see below the nipple two simple cysts and right next to them a carcinoma. This points out the importance of the fact of multiple tumors in one breast that I told you about. Here is a simple cyst and the lining of this simple cyst is solid carcinoma, which one can sometimes suspect if there is bloody fluid in the cyst or if induration persists after aspiration. This shows the spread of cancer of the breast along the septa that pass between the fat cells, the cancer cells passing along them into the overlying skin. This fact shows the importance in the radical operation of removing all of the skin of the breast, and when you have made the incision to dissect back very thin skin flaps, in order to prevent early reappearance of the carcinoma along the scar line or close to the scar line.

In this slide are cancer cells in the lymph vessels between the pectoralis major and minor muscles. This proves the vital importance of removing *both* pectoralis major and minor muscles in continuity with the breast. In this section of Wainwright, in the fat of the axilla, you can see these tiny little lymph nodes completely replaced by carcinoma which one cannot feel on palpation.

These slides are Halsted's original pictures of 1894. They show the tumor, the wide excision of the skin, the incision out on the arm and the dissection from the sternum outward. He originally left the pectoralis minor muscle in place and divided it, retracted the upper end, performed the axillary dissection, and then re-sutured the pectoralis minor muscle. He removed the pectoralis major.

Dr. Willy Meyer, on the other hand, in the incision that you see here, immediately advised at that time—1894—(these were his original pictures drawn from a cadaver) division of the pectoralis major muscle at the humerus, the pectoralis minor at the coracoid process, the dissection of the axilla, dissecting across the chest wall from without medially and dividing the fibres of origin of the

pectoralis minor on the chest wall and the pectoralis major at the sternum.

These following slides show the technique we now use which is the Willy Meyer technique with some improvements. You see the incision up on the arm, here the fixed point between the clavicle and the axilla and down on the abdomen.

Then in the next picture you see the incision at the very margin of the breast with the tumor being in the center, and here you see the incisions joined and the very thin skin flap, showing how thin the skin flap is made, leaving all the fat behind on the tissue side, and you see the land mark of the latissimus dorsi. A little path is cut along the latissimus and at the base of the flap across the chest wall to the midline, and here you see a similar path cut from the suprasternal notch along the opposite pectoralis major down to and across the recti muscles, after reflection of the medial flap.

All the hemostats are frequently removed, lap pads cover the wound not being worked on. Then you start with the axillary dissection. Here is the pectoralis major, the cephalic vein, the tendon of the pectoralis minor showing through, and you see the pectoralis major insertion divided, exposing the coracobrachialis, and here is the pectoralis minor tendon divided at the coracoid process. This then exposes the axilla.

The pectoralis major is divided along the clavicle and the axilla is dissected from within outward by meticulous sharp dissection. You see here the axillary vein completely freed of its sheath, here are the large lymph nodes. One black silk marking thread is placed at the very apex of the axillary dissection for the pathologist and two black silk marking threads at the outermost portion. The pathologist will then know that all of the axillary nodes must lie between the two markings. It depends a great deal whether nodes are involved in the outer portion of the axilla or at the apex of the axilla, as to the prognosis in the individual case. Here you see the subscapular space dissected out, the long thoracic nerve of Bell and the thoracodorsal nerve.

And now the dissection goes across the chest wall ending near the sternum. A lap pad is placed on the chest and the breast is allowed to drop back. The dissection continues from the opposite pectoralis major, taking the sheath of the recti muscles and finally dividing the fibres of origin of the pectoralis major on the tumor side. This is the wound at the end of the operation showing the deltoid muscle, the cephalic vein, coracobrachialis, axillary vein, long thoracic nerve of Bell, thoracodorsal nerve, the latissimus dorsi, serratus muscle, ribs with the intercostal muscles, the upper end of both recti muscles

all dissected free and clean of fascia, and the opposite pectoralis major. Then you flush the wound with saline. The wound is sutured with multiple interrupted sutures, if necessary suturing the skin edges to the intercostal muscles, if the wound cannot be closed primarily, and immediately putting on a Thiersch graft, taken from the thigh.

The Thiersch graft is dressed separately. One of the most important points is to express all of the air and blood, especially from under the clavicle and axilla. I believe a great deal of the complication of edema of the arm comes from collection of serum which you have to repeatedly aspirate. Low grade infection may cause some of the edema of the arm which is so annoying. Then you put the dressing on, carefully making compression in the axilla with cotton waste or fluff gauze. You next see the specimen as it goes to the laboratory, all of the skin of the breast, the anterior sheath of both recti muscles, the opposite pectoralis major fascia, the subscapular area, and here the axilla with the one black silk thread at the apex and the two black silk threads at the outermost portion of the axilla, and here you see the specimen dissected showing a tiny little primary tumor in the breast, with the very large metastatic lymph nodes in the axilla. Here is the patient after the operation with the Thiersch graft healed and with full motion of the arm.

This is another patient, a most interesting case. This photograph was taken nine years after a radical mastectomy with axillary lymph node involvement. I did a gall bladder operation on her when I returned from the service and she seemed perfectly well. Two years after the gall bladder operation, nine years after the radical mastectomy, she developed a mass in the right lower quadrant, and we explored it. We took out a lymph node. The lesion was inoperable. The lymph node showed a metastasis from her original breast carcinoma. Those tumor cells must have been lying there asleep in that pelvis. We don't know what the inhibiting factor is, nor do we know what the inciting factor is, that will make those tumor cells that lie asleep, dormant for many years, finally come to life and grow like wildfire.

Here is a case of bilateral carcinoma of the breasts. This is a patient whom we operated on, and three weeks apart did a bilateral radical mastectomy. We lost track of her on follow-up after five years. Last year she walked into my office and here is her picture 25 years after the bilateral mastectomy. Therefore bilateral carcinoma should not be a contraindication for radical operation.

Male carcinoma of the breast is usually very malignant. Here is a man with carcinoma of the breast.

He had all of the axillary lymph nodes involved and in this instance we did a supraclavicular lymph node dissection. We have not had a single patient who has had supraclavicular lymph node involvement who survived five years. This man lived for four years and nine months and on my return from the service he had no local reappearance of carcinoma but he had pleural metastases from which he died.

Here we see another man with carcinoma of the breast. He had a radical mastectomy, just the same as in the female, and here you see him after the operation. Here you see another man ten years after radical mastectomy with a large Thiersch graft on his anterior chest wall.

Now a word about local reappearance and palliative surgery. You see here a patient three years after a radical operation which I personally did. In the center of the Thiersch graft there is a local reappearance on the chest wall. In these cases we cut a window out of the chest wall if there is no evidence of distant metastases. Here is the specimen with the reappearance cauterized, the section of the chest wall with the three ribs removed, with the pleura underneath. It is very quickly and easily done under endotracheal anesthesia, and then you take a pedicle skin flap from the abdomen below, swing it up, sew it into the defect, blow up the lung, and the lung will immediately become adherent to the fat on the undersurface of the flap. This patient lived for three years after the operation, and then died of liver metastases.

Dr. George H. Semken, my former chief, showed a patient at the New York Surgical Society who lived for 10 years after such an operation.

Here is a patient operated on elsewhere with an incomplete operation and preservation of the pectoralis major, local reappearance here and the surgeon then excised it locally and swung a little pedicle flap into the defect. Shortly thereafter, another local reappearance occurred. In such a situation, you can either do a very wide excision or use irradiation. I chose to do a wide excision as you see by this specimen here. Here is the original small flap in the specimen. The new pedicle flap is not taken from the region of the operation but a large pedicle flap is taken from the abdomen with the pedicle behind. It is swung up in place and the donor area is decreased in size and a dermatone graft used to close the remaining defect. This patient has gone for a year and a half without local reappearance.

Here is a patient who had x-ray therapy for carcinoma of the breast. She was the mother of a doctor. She refused operation and was treated intensively by x-ray. She developed x-ray dermatitis.



But she still had carcinoma and she had infection, fever, and terrific pain. She was with her son down in Texas, and he telephoned me and said, "Doctor, you have to do something for my mother even if she dies on the operating table." She came up, and I found the tumor fixed to the chest wall. I excised the breast tumor, chiseled away some of the sternum and again took a large pedicle flap from the abdomen, swinging it up into the defect. She also had metastases in her axilla.

I had to divide the operation into two stages on account of the infection. Six weeks later I excised the axilla. I took the skin of the axilla to which the tumor was adherent, together with all of the axillary contents, the muscles and the axillary vein, removing the whole vein. You can see in this incised specimen how the carcinoma was adherent to the skin of the axilla. Then I took a pedicle flap from the back, lifted it up, swung it into the axilla, to take the place of the skin that had been removed, and you see here that the flap fills in the axilla. The interesting thing is that while I had told the family that the patient would live for only a few months, she has now gone for a year and a half with no clinical evidence of the disease. That is palliative surgery. We do not do it with the idea of arresting or curing the disease. She will surely die of carcinoma, but she has gone for a year and a half in complete comfort, no pain, no more fever, no more morphine.

This patient came to us with a frozen axilla after an incomplete operation, a simple mastectomy. She had terrific pain and morphine would not relieve her. Our neurosurgeons tried to see what they could do with neurosurgical procedures. They could not relieve her and the patient pleaded that something be done for her pain. Here we did an interscapulo-thoracic amputation. In the specimen you see the ulceration in the axilla and the whole shoulder girdle removed. A flap was swung up covering the chest defect with a graft. All of the brachial nerves were invaded by cancer. She lived for two years in solid comfort, without morphine, and then died of general carcinomatosis.

I show you these slides just to impress you with the fact that palliative surgery may be of inestimable value for the patient in some of these cases. It does not improve one's own statistics. However, that fact does not influence me.

Now finally one word about the use of hormones in the treatment of advanced and inoperable carcinoma. Remember, gentlemen, that we are only at the threshold of our knowledge, it is all still experimental, we change our ideas all the time. Here you see an advanced case with nodules in the skin, in the supraclavicular fossa and up in the neck. She

also had skull metastases which you can see here in the skull. She was put on androgens, 100 mgm. of testosterone propionate three times a week over a long period of time. After about three months almost all of the nodules had regressed, the mass in the supraclavicular fossa regressed and she went along for almost a year with a regression of her carcinoma. No hormone treatment has ever arrested the disease but it does cause regression. It often relieves pain and the patients no longer require morphine. It is of definite value in some cases.

Now here is a patient who was also put on androgens for bony metastases following a radical operation. I personally did not perform the mastectomy. She was sent to me for a chest wall resection, but on account of the distant metastases she was put on androgens, she has gone for two years, and she is still alive in comparative comfort.

Here you see a patient in our breast clinic who refused all form of treatment, either irradiation or surgery. She was put on estrogens because the carcinoma was of soft parts, and she was past the menopause. She received diethyl-stilbesterol, 15 mgm. a day in three divided doses, and she took that for two years. This photograph was taken at the beginning, and after two years her condition was exactly the same as when we started. It did not advance and it did not regress.

Here you see a case of bilateral Paget's cancer. It is very extensive with cancer en cuirasse. Palliative x-ray treatment was of real help, together with hormone therapy.

In this slide you see what may occasionally happen with postoperative irradiation. We do not use irradiation postoperatively with the surgical technique as we do it. However, if the surgeon does not take much of the skin of the breast, or if he does not make very thin skin flaps and if he does not do a meticulous sharp dissection of the axilla, then there is no question but that postoperative irradiation is indicated. However, if you make very thin skin flaps, and even if the postoperative irradiation is given expertly, this slide shows what may happen. An extensive hole has been burned right through the skin flap in the axilla.

Finally the last slide shows the picture of an incomplete operation. The pectoralis major and minor muscles have been left in place, a simple mastectomy with a half baked axillary dissection has been done, and the patient comes to our clinic with an early re-appearance, three months after the operation. These cases make us most unhappy and dissatisfied with some of the surgery that is performed for cancer of the breast. Therefore, in closing I would like to

make this remark. Does one feel satisfied when one sees a patient like that?

I always like to quote the late Dr. John B. Deaver of Philadelphia. He used to say to his assistant at the end of an operation, "Gentlemen, what are we now?" The assistant was trained and he said, "Satisfied, Dr. Deaver." Dr. Deaver would turn to his

audience and he would hold up his hand and say, "Gentlemen, gentlemen, what it means to be satisfied." I always believe that if we are going to use surgery in the treatment of cancer, then we should feel satisfied at the end of the operation that we have done all that could possibly be done surgically for the patient.





# The Cutaneous Manifestations of Lymphoblastomata

Arthur C. Curtis, M.D.

Ann Arbor, Michigan

I realize that in anyone's practice the incidence of lymphoblastoma is relatively uncommon. I do feel that many times cases come into our office that we may miss unless we are conscious of the cutaneous manifestations.

One type of lymphoblastoma that is often misdiagnosed is confused with an exfoliative dermatitis from drugs such as arsenic, or an exfoliative psoriasis, (because psoriasis can be generalized and can produce a picture simulating this). Another thing that can be confused with this type of lymphoblastoma is a sensitivity to such things as ragweed which might have caused a generalized dermatitis. Those are all possibilities, and for that reason I think a good name to call a disease of this type when one first sees it is an exfoliative erythroderma—in other words an exfoliative dermatitis characterized by redness of the skin. I think that one should also keep in mind, when one sees an exfoliative dermatitis of this type, that this might be the onset of a lymphoblastoma.

Now supposing that this is a lymphoblastoma. In the first place what would one do to prove it, and if it is a lymphoblastoma is it one which has special characteristics? Can one say from examination of such a patient that this lymphoblastoma is the beginning of Hodgkin's disease or is it a leukemia or is it a type of lymphoblastoma that the dermatologist calls mycosis fungoides? There is no way to tell at this stage. Any one of the lymphoblastomas, even a lymphosarcoma, can begin as an exfoliative erythroderma.

One of the things that I think is always worth doing when one sees a patient of this type is first to find out how long this exfoliative erythroderma has lasted. How did it begin? Did it begin as a nondescript dermatitis or did it begin perhaps as a rather sudden burst of a generalized dermatitis? Secondly, does the patient have an adenitis? After all, any patient who has this generalized exfoliative erythroderma as we see it here will have an adenitis regardless of the cause of that erythroderma, because with the loss of the epidermis in sheets, as it often is lost in these cases, secondary bacterial agents come in and there is apt to be a dermatitis. Therefore, feeling an enlargement of the inguinal glands, the epitrochlear glands, the axillary glands, the cervical glands and so on does not mean that one is dealing with a lymphoblastoma. One should always keep in mind that in the lymphoblastomas there is an adenitis and that is one thing that is helpful. One

should also determine whether or not there is enlargement of the liver and of the spleen, and of course do adequate blood studies on these patients.

Now biopsy of the skin is very often helpful, particularly in the lymphosarcomas and the leukemias, but many times in the other forms of cutaneous lymphoblastoma the skin biopsies, unless they are read by one well trained in the diagnosis of skin pathology, may not be helpful. Therefore, in these cases I think it is advisable not only to get a skin biopsy but also to get a biopsy of the gland, for sometimes although the skin may not be pathologically pathognomonic the gland may be. In addition to the biopsy of the skin and the biopsy of the gland one should also do adequate blood studies on these patients.

This exfoliative erythroderma may be generalized. The thickness of the skin is evident by the rather coarse folds over the knee. That skin pathologically shows considerable edema, and one can also see the swelling of the ankles and the swelling over the dorsum of the feet that is again part of the edematous process of the disease. Again keep in mind that patients can and sometimes do have the onset of their lymphoblastoma in this manner.

Now we will consider a dermatological disease that had been believed for many years to be an entity. It has been called by an unfortunate name and that is mycosis fungoides. It is characterized by the appearance in the skin of a nondescript dermatitis which at times looks much like a contact dermatitis. It may look like a seborrheic dermatitis. It may be an exfoliative erythroderma as we saw a moment ago. Or there is another manifestation which is called the tumor type, characterized by a sudden outburst of one or more tumors appearing in the skin. This lesion is characterized by an opaque reddish colored tumor which has definite infiltration. It is entirely asymptomatic in this stage, because usually these lesions do not itch, whereas in the nondescript dermatoses itching does occur and in the exfoliative erythroderma there usually is considerable pruritus. But often in the tumor stage as one sees it here the lesions are not pruritic. There are no excoriations that one can see, and if one biopsies that lesion one gets a pathological picture most dermatologists think is characteristic of the disease—mycosis fungoides.

If this disease is allowed to progress without diagnosis, or without treatment, or if a person who has it thinks it is probably a form of eczema and

doesn't do anything about it, he may develop a scaling plaque of erythroderma whereas the skin nearby is normal. One can see that this is more than the ordinary eczema-like dermatitis. This is something that is infiltrating the skin; there is a definite border around it; there is considerable scale. If one feels it, it has a definite sense of depth and it actually is an infiltrative disease of the skin. In some areas one sees a definite tumor. This tumor may have existed long enough that the center is ulcerative. These tumors are often likened to a rotten tomato because they have a tendency to appear, the center apparently has the vascularity destroyed, and ulceration occurs producing a manifestation of this type of lymphoblastoma that is called mycosis fungoides—a fungating disease.

We saw a patient not too long ago who was sent in to have an amputation of the arm because of the sudden onset of a tumor which had a sort of moulage appearance—in other words a certain unreality in its appearance due to the fact that there was a tremendous infiltration of cells into one area giving a light color, again the beginning ulceration in the center of the tumor and again a lesion which pathologically and from its clinical course fits in this entity that we call mycosis fungoides.

Another man that we had not too long ago had a single tumor appear on the knee, which was large, rapidly growing and with ulceration in the center—a highly malignant lesion. Pathologically it gives a picture like mycosis fungoides or granuloma fungoides.

A woman is now in the University Hospital who had her first tumors of this type—large, fungating masses of necrotic material and granulation tissue which produced bleeding. There had not been any pruritus around these, but many of the other lesions which she had on her face, trunk and extremities were extremely pruritic. Some of these are coming up as tumors. Many of them have been excoriated. There are some scratch marks which are deep enough to have taken out the entire surface of the epithelium. She has had these lesions about the mouth.

Another woman appeared to have a factitial dermatitis, except for a multitude of tumors that were in big fungating masses on the scalp. At the time that she was seen, of course one of the things that was thought was whether or not this was a factitial dermatitis and whether or not these weren't secondarily infected, pyogenic lesions on the scalp. A biopsy of the lesions, however, showed the characteristic infiltrations of a lymphoblastoma.

The so-called mycosis fungoides being superficial, as it is in most instances, is just as amenable to roentgen therapy or other types of therapy such as nitrogen mustard, urethane, and pyrobenza-

mine acid as are the other lymphoblastomas. Because the lesions are cutaneous they can be diagnosed early in their course, and it is because the roentgen therapy can be given adequately to the surface lesions that the response is actually more dramatic than it is in Hodgkin's disease.

Now if we take a pathological section of a patient who has this so-called mycosis fungoides we find a tremendous infiltrate. It is often described as a band like infiltrate extending deep into the foramen, and if we look at it under high power we find polymorphonuclear cells, eosinophiles, lymphocytes and occasional plasma cells. We find cells undergoing mitotic phases. This polymorphous infiltrate is believed to be one of the characteristics of this lesion and at times we find cells in which there are more than one nucleus—in other words cells that are something like the Dorothy Reed cell but not quite like it. It is because of this somewhat different pathological picture in the skin—a somewhat different multinuclear giant cell that one sees—and also the fact that mycosis fungoides has a tendency to be a cutaneous disease, that most of the histopathologists of the skin have believed that mycosis fungoides was a lymphoblastoma of a different type than Hodgkin's and lymphosarcomas.

On the other hand in a recent study that we are now completing we have had the opportunity to perform autopsies on 10 cases of mycosis fungoides which were typical in so far as the cutaneous manifestations were concerned and we have been able to show in every one of these 10 cases that the disease has not been cutaneous alone, but it has involved many of the structures of the body, even the heart itself, and that in every single instance where we have had the opportunity to study it pathologically that these patients either have a lymphosarcoma or that they have Hodgkin's disease. In other words then the cutaneous picture is a different picture but if you have the opportunity to examine infiltration of the other visceral portions of the body, the lymph glands, the spleen, the liver and its other viscera one finds that this disease falls into the class of either Hodgkin's or lymphosarcoma and that makes one think again that perhaps mycosis fungoides is a clinical diagnosis like erythema multiforme and yet pathologically it is probably either Hodgkin's disease or lymphosarcoma.

Now the other lymphoblastomas may have their onset again with an exfoliative erythroderma or they may present themselves as diseases with characteristic infiltrations in the skin.

The first lesions that a young woman had noticed were plum-colored lesions. That color is due to the infiltration in the skin of masses of white blood cells. In this particular case the woman had a myelogenous leukemia. We know, however, from



other cases we have seen and from reports in the literature that the lymphocyte has a tendency to produce a purplish color in the skin if it invades the skin in large enough numbers. But on the other hand so does the monocyte myeloblast. And, therefore, if one sees a person who has tumors sharply circumscribed, non-pruritic, and plum-colored one can say that in all probability this is either a lymphatic leukemia or a myelogenous leukemia. These lesions are not hard, often they will show some gangrenous necrotic areas in them, and there may be some scale. But again once one has seen lesions of this type one can almost always make a diagnosis of one of the two types of leukemia that produce them.

The third lymphoblastoma which produces by far the most cutaneous manifestations is one of the less common types of leukemia—the monocytic leukemia. About 50 per cent of the cases of monocytic leukemia will have cutaneous manifestations. A young woman came into the hospital because of hypertrophic gingivitis. This was the thing that bothered her. She did have one solitary lesion in the chin but that was the only cutaneous manifestation. The gums look semi-transparent due to the fact that there is a tremendous infiltration of cells in them; they are friable and have a tendency to bleed just from the mastication of food. There are few diseases that will produce a hypertrophic gingivitis like that. We are all acquainted with the fact that scurvy does, and if you have ever read any of the old accounts of scurvy among the sailors of the old sail-boating days you get the idea that scurvy could produce a marked hypertrophic gingivitis associated with bleeding of the gums not unlike this. But scurvy is a very rare disease today.

Another disease that produces hypertrophic gingivitis which you have all seen, I am sure, is diltantia. Individuals who have taken dilantin for long periods of time because of epilepsy may develop a rather striking hypertrophic gingivitis, not only of the gums, but sometimes of the hard and soft palate. And again we see hypertrophic gingivitis in individuals who traumatize their gums a lot like the man who chews a cheap brand of scrap tobacco and gets a lot of dirt in it, or children who because of one reason or another (usually because of psychiatric difficulties), get in the habit of chewing gritty things and driving this material into the gums themselves and producing hypertrophy of the gums. This is not an uncommon finding in monocytic leukemia, and if any of you have, in the next year or so, a case of monocytic leukemia one of the things that one ought always to look for is the hyperplastic gingivitis that so frequently is a part of this disease and may be one of the first manifestations of it.

The lesions of monocytic leukemia are often a little different than they are in lymphatic and myelogenous leukemia and they are also different than they are in Hodgkin's disease and lymphosarcoma. You can see two types of lesions: one of them is tiny little violaceous rather discrete papular lesions which are much lighter in color than are the lesions of myelogenous and lymphatic leukemia; the other thing is the purpura that is associated with the decrease in the platelets.

One patient, who is a physician, had two lesions—one on his thumb, and one on the palm of the hand. He came into the hospital because of these lesions. As they came up he thought perhaps they were due to some foreign body, but they didn't disappear. Both were excised, and we found that when a pathological section was made they also were nodules of monocytic leukemic infiltration of the skin. This man died about three months later of his monocytic leukemia. Therefore, of the various lymphoblastomas one should keep in mind that of the leukemias the one that most commonly causes cutaneous infiltration is monocytic leukemia.

True Hodgkin's disease of the skin is very very uncommon, and I think perhaps it is uncommon because the things that we call mycosis fungoides are in all probability Hodgkin's disease. To find the picture of true Hodgkin's disease of the skin so that one can look at the skin and compare the pathological changes there with the pathological changes that one finds in the lymph glands is a rare thing. Many times when we see Hodgkin's disease of the skin and can make a diagnosis of it pathologically we find first of all that it is usually associated with a great deal of pigmentation. It secondly is associated with a terrific pruritus so that many times these patients, before they have any lesions whatsoever, will come to a physician because of extreme itching. He will go through the various and sundry causes of itching, find nothing that has relieved this patient, and eventually think of the possibility that perhaps this is a lymphoblastoma. And by doing biopsy studies of the skin and the glands they will eventually arrive at a proper diagnosis.

I can recall not so long ago a woman who was in the hospital for a long period of time because of an extreme pruritus. One of the things that we had in mind when we first saw her was that she might have a lymphoblastoma. We could find no evidence of it whatsoever, but in one lateral view of her mediastinum we did find what we thought perhaps was a slight amount of widening. We asked our own x-ray department in the University Hospital to give her roentgen therapy to the mediastinum and because of the lack of evidence and because of the fact that there wasn't enough enlargement of the

mediastinum to warrant it they refused to do it. We sent her to another hospital where the roentgenologist did x-ray her mediastinum and within a week's time her pruritus disappeared and was gone for a year. She eventually got a recurrence of the adenitis of the mediastinum and in the abdominal region, and at this time the adenitis was diagnostic by x-ray and the glands in the abdomen were palpable. She again got x-ray treatment and she again lost her pruritus. But one of the things that one ought to keep in mind in any of these patients where you can rule out the common causes of itching is that you may be dealing with a lymphoblastoma and this lymphoblastoma may be a Hodgkin's disease.

Lastly I should like to mention one thing that has been of considerable interest to us. A woman who was a patient in the Blood Institute of our university was treated for myelogenous leukemia. She had been under treatment for about a year and a half. On her next examination at the hospital she had an irregular ulcerated crusted lesion of the face and lips and she also had a lesion on the forehead which looked much like a rather large acne pustule. We were asked to see her at that time, and one of the routine things that we do is a culture for the mycoses. She grew from these lesions a pure culture of *torula histolytica*. These lesions that she had on her forehead and these tiny lesions which she had on her face were characteristic acne-form lesions of a disseminated *torula histolytica* infection.

In going over the literature I was interested in

one of the reports of the Massachusetts General Hospital conferences where Dr. Mallory said, in a discussion of a *torula histolytica* case, that much to his surprise, as far as he could remember practically every case of *torula histolytica* he had seen was in a case of lymphoblastoma. We went back over our own series of cases, of which we have had five in the past five years, and three of our five cases have had lymphoblastoma.

We have also been interested in the association of lymphoblastoma and histoplasmosis. In the examination of the 88 case reports in the literature of histoplasmosis, five have had some form of lymphoblastoma. Now that is interesting from this point of view. Does the lymphoblastoma have anything to do with the invasion of the body by one of the deep mycoses or do the deep mycoses have anything to do with the production of the lymphoblastomas? Those are questions that I cannot answer, but I do believe that the lymphoblastoma itself in all probability prepares the soil for the invasion of the deep mycosis.

One woman did not have the meningitis that is so often the characteristic of *torula histolytica*. She had nothing but lesions of the skin insofar as we could tell at the time, but we watched her spinal fluid, which eventually became positive for the *torula histolytica* organism, and she eventually died of a *torula* meningitis. It is interesting that two of the deep mycoses—histoplasmosis and *torula histolytica*—would have a tendency to invade lymphoblastomatous tissue.





# The Surgical Treatment of Carcinoma of the Stomach\*

W. P. Longmire, Jr., M.D.

Los Angeles, California

A review of over 14,000 gastric resections for cancer of the stomach by Pack and Livingston<sup>1</sup> in 1940 revealed that if every patient with gastric carcinoma entered the best surgical clinic in the world, 95 per cent would remain uncured and approximately 90 per cent would be dead of their disease within 18 months.

In reviewing the various factors responsible for this low survival rate the following considerations have been stressed:

(1) In 50 per cent of the patients the disease is so far advanced that the condition is considered inoperable without exploration.

(2) Another 25 per cent of the cases are found to be inoperable at exploration.

(3) There is 10 to 15 per cent immediate mortality rate following resection.

(4) Of those patients surviving resection, two-thirds are dead in three years; three-fourths are dead in five years and four-fifths are dead in 10 years.

(5) Thus, two to six patients are left out of the original 100 who survive 10 years or longer.

The greatest loss occurs in those patients who are considered inoperable when first seen and a vigorous campaign has been and still is being waged to educate the public to seek attention early and to keep the members of the medical profession alert to the recognition of the symptoms of gastric cancer.

Several new methods which may assist the physician in detecting early asymptomatic malignant gastric lesions are at present being investigated in various hospitals. None, however, has been developed sufficiently to be adapted to general usage on a large scale.

The routine use of gastric analyses as a screening device with further investigation of cases found to have achlorhydria of gastric secretions has been investigated by Niazi, State, Trelor and Wangenstein.<sup>2</sup>

Adapting the technique of exfoliative cytological diagnosis to the detection of gastric cancer by studying the gastric secretions or gastric washings for the presence of malignant cells has been reported by Graham, Ulfelder and Green,<sup>3</sup> and others.

Roach, Sloan and Morgan<sup>4</sup> are studying the practicability of the routine photofluorographic examinations of the stomach in certain groups of patients. In an analysis of the first 6,000 patients so ex-

amined 36 were found to have the accepted radiological manifestations of carcinoma, and the diagnosis of malignancy has been confirmed at operation in 23 of these patients. This series included both symptom free patients and patients who came to the hospital with gastro-intestinal complaints.

A simple accurate systemic test for the presence of a malignant lesion in the body would be of great aid in detecting asymptomatic gastric neoplasms as well as many other types of early malignant lesions. Work is in progress in a number of institutions to develop such a test. Hall, Dowdy, Penn and Bellamy<sup>5</sup> have reported a series of sero-flocculation tests for cancer of the gastro-intestinal tract. They tested 122 cases with proven gastro-intestinal tract cancer and in 93.2 per cent the correct diagnosis was made. The test was incorrect, either falsely positive or negative, in 6.8 per cent of the cases.

Continued effort along these lines may be expected to decrease markedly the percentage of patients considered inoperable when first seen, or found inoperable at exploration.

In recent years the use of more radical surgical procedures has been suggested as a means of improving the survival rate of patients undergoing operation, and the use of total gastrectomy for many of the smaller gastric neoplasms now routinely treated by subtotal resection has been suggested. Until about 10 years ago total gastrectomy was rarely performed and was reserved for the isolated case in which the entire stomach was invaded by a neoplasm but in which distant metastases were thought to be absent. Many of our impressions of the results of total gastrectomy have been formed from the follow-up results of such patients, many of whom developed rapid recurrence of the carcinoma, so that in the minds of many people, the symptoms of recurrent abdominal cancer are confused with the symptoms of total gastrectomy.

With the development of the antibiotics, and improvements of anesthesia and surgical techniques in recent years, it has been possible to lower the mortality rate of this procedure to a point where it compares favorably with that of other types of operative procedures for cancer of the stomach. Statistical proof that total gastrectomy provides a better chance of survival from cancer of the stomach than does a subtotal resection is not as yet available. The present rationale for total resection is based largely on theoretical considerations.

\*From the Department of Surgery, University of California at Los Angeles Medical School, Los Angeles, California.

There are five ways in which cancer of the stomach spreads from the initial lesion: (1) by direct extension in the wall of the stomach; (2) through the regional lymphatics, into the regional lymph nodes; (3) by extension into adjacent organs, such as the liver, pancreas, transverse colon or meso-colon or into the anterior abdominal wall; (4) through the blood stream; and (5) by direct seeding or implantation through the peritoneal cavity.

In considering these various methods of spread, there is theoretical evidence that a total resection would offer a greater hope of eradicating the malignant lesion and certain of its primary pathways of spread. It is difficult in many respects to identify a malignant neoplasm of the stomach as an early lesion. The duration of the patient's symptoms may have little to do with whether the lesion is early or not. Some patients with very massive, far advanced cancers and widespread metastases have symptoms of brief duration, while other patients who have had stomach symptoms that might be related to disturbed gastric function for many years may have a small localized lesion without spread.

In a recently reported series of 55 gastric carcinomas treated by total gastrectomy, the lesions were divided into "limited" and "infiltrative" groups according to the gross type of the tumor. Metastases to regional lymph nodes were found in 62 per cent of the "limited" group and in 80 per cent of the "infiltrative" lesions.<sup>6</sup>

Coller, Kay, and McIntyre<sup>7</sup> found that it was impossible to tell without microscopic section whether the lymph nodes were invaded by metastasis unless they were obviously completely replaced by carcinoma. They found no relationship between the duration of symptoms, nor the size of the neoplasm and the extent of lymphatic metastasis.

One of the most common pathways of lymphatic spread is along the vessels of the lesser curvature of the stomach and the left gastric vessels down to the celiac axis. A second common pathway of spread is into the duodenal or pyloric lymph nodes. Other glands which are less frequently involved are those along the course of the greater curvature of the stomach, the splenic nodes, and the lymph nodes about the lower end of the esophagus.

It is also difficult to determine the limits of the neoplasm in the stomach wall at the time of operation. Coller, Kay and McIntyre reported that the upper margin of the neoplasm could not be determined at operation by palpation alone in 24.5 per cent of the cases. Mr. Headley Adkins has described the presence of malignant cells in the upper margin of the surgical specimen following subtotal gastric resection in 18 of 19 cases studied.

Extensive metastatic peritoneal implants or distant blood borne metastases obviously preclude eradication of the neoplasm by any type of resection; however, certain direct extensions of the carcinoma outside of the stomach wall may be included in the resection if aggressive surgical principles are adopted. Resection of involved portions of the pancreas, esophagus, colon, and liver may at times be indicated.

Operative technique for total gastrectomy: The abdominal approach is usually preferred. The greater omentum is removed from the transverse colon so as to include all of the lymph nodes along the greater curvature and any possible neoplastic implants that might be included in the omentum itself. The gastro-epiploic and right gastric arteries are divided at their origins and the supra- and infrapyloric lymph nodes carefully removed. Mobilization of the greater curvature is completed by division of the vasa brevia, or, if the spleen is to be included in the resection, division of the splenic artery and vein. The stomach is reflected upward. The left gastric vessels are visualized and divided in the retroperitoneal area and lymph nodes about the coeliac axis removed.

Weinberg<sup>8</sup> has recently proposed the injection of a dye, pontamine sky blue, into the wall of the stomach when the operation is started. This dye is dispersed into the regional lymphatics, staining the nodes a blue color, so that they are much more easily identified at the time of operation. A peritoneal flap which starts from the gastrohepatic omentum and extends across the esophagogastric junction to the left side of the diaphragm is then elevated and the vagus nerves divided. The wall of the esophagus is visualized but is not thoroughly cleaned. No attempt is made to free the esophagus up through the diaphragm.

The preferred anastomosis has been the end-to-side retrocolic esophagojejunostomy, using an inner row of interrupted catgut sutures and an outer row of interrupted fine silk sutures. The peritoneal flap is sutured over the anastomosis to the jejunum. An entero-enterostomy between the two limbs of the jejunal loop is recommended.

An end-to-end esophagoduodenostomy may at times be indicated if the structures can be approximated without tension.

The operating mortality for total gastrectomy has been recorded in several recent reports as approximately 10 per cent.

A nasal tube through the esophagojejunal anastomosis has not been used.

Postoperative care: Penicillin and streptomycin are given routinely for the first week after opera-



tion. Parenteral feedings are given for 48 hours. If the patient's general condition is satisfactory at this time, small amounts of water are given by mouth. This is slowly increased until the patient is taking a full liquid diet by the fifth or sixth day. The majority of patients will then tolerate a soft solid diet in six small feedings. A high protein, high carbohydrate, low fat diet in frequent small feedings supplemented with vitamins and ferrous iron, is prescribed on discharge.

A transient diarrhea lasting two to three days has been observed frequently when soft solid foods are started, but, in no instance, has this persisted.

Follow-up results: In a previous report,<sup>6</sup> we summarized the pertinent data on 11 individuals who were alive 12 months or more after total gastrectomy. The longest survival time in this series was 54 months. All but three patients had made satisfactory gains in weight. The majority had good appetites and six of the 11 had normal food capacities. The remainder were still eating four to six small meals a day and had limited capacities. Only two of the 11 patients had no gastro-intestinal symptoms either during or after meals. The majority complained of some degree of epigastric fullness and discomfort with or without associated heartburn at the time of, or shortly after meals. All of the patients had normal bowel habits and none of them were troubled with diarrhea. Recent blood studies had been performed on all cases and in no instance was there anemia. A majority of patients were working regularly and had been able to return to their normal occupations.

A second study has been made of eight patients who have survived total gastrectomy for 22 months or more. Seven of these patients have lived from 22 to 29 months following total gastrectomy and one patient has survived seven and a half years.

None of the patients showed evidence of metastasis. In all cases an end-to-end esophagojejunal anastomosis was performed. The observations have been grouped into three chief categories: (1) general health and habits; (2) blood studies, both hematological and chemical; (3) digestive and metabolic studies.

#### *General Health and Habits*

At the time of our observations six of the patients were in good general condition. They were eating well, their strength was good, they were able to perform their usual work, and they seemed well satisfied with their general physical condition.

One patient operated upon elsewhere seven and one-half years previously had led a normal life until the onset of symptoms of a severe macrocytic anemia about three months before her recent admission here.

The only patient whose postoperative course has been consistently unsatisfactory is a 68-year-old man from whom an extensive benign gastric lesion was removed 25 months prior to this study. He has complained of epigastric fullness and generalized abdominal cramps after eating even very small amounts. He lost seven pounds in the first six months after operation and has failed to gain since that time. His general condition at the present time is fair. For lack of a better explanation, after complete examination, we have been forced to conclude that he is one of a small group of patients whose digestive systems do not become satisfactorily adjusted to the absence of the stomach.

#### *Hematology*

In one patient, as stated, there developed a severe macrocytic anemia with subacute combined degeneration of the spinal cord approximately seven and one-half years after total gastrectomy. Before operation her red blood cell count was normal and her hemoglobin slightly below normal. At the time of our recent studies the red blood cell count was 1.8; hemoglobin, 7.0. The mean corpuscular volume was 128 cubic microns.

All of the other seven patients had mild anemia and in two there was a slight increase in the mean corpuscular volume, although this was not considered significant. None of these patients has taken ferrous iron as regularly as has been advised, and it is not surprising that a mild degree of anemia is present.

#### *Blood Chemistry*

Studies of the nonprotein nitrogen, sugar, chloride and carbon dioxide combining power show little variation from normal. Various values that were determined to demonstrate liver function showed no evidence of severe impairment in any of the patients. The serum bilirubin was slightly elevated in four patients. The prothrombin time was significantly prolonged in three patients.

#### *Digestive and Metabolic Studies*

X-ray studies after ingestion of barium show the esophagojejunal anastomosis to function satisfactorily and the activity of the intestinal tract to be normal in all patients. Jejunoscopy of all these patients, in some instances, showed the rugae to be slightly thickened. There is no evidence of dilatation of either jejunal loop or of scarring about the site of the anastomosis.

#### *Protein Metabolism*

The digestion of proteins was investigated in two patients. In the first patient the fecal nitrogen was slightly elevated. The second patient showed a stool nitrogen output of more than three times the normal

value. It is interesting that both of these patients on the original diets were in slight negative nitrogen balance.

#### *Fat Metabolism*

Four patients were placed on a diet of calculated fat content and subsequently the quantity of fat in a 48-hour stool collection was determined.

The fat content of the stool was normal in two cases but greatly elevated in the other two.

In two other patients the percentage of fat of the dry weight of the stool was found to be elevated while they were on an uncalculated diet of their own selection.

#### *Carbohydrate Metabolism*

The carbohydrate metabolism was investigated in six patients by means of oral glucose tolerance tests. There were, of course, individual variations, but the following generalizations may be made:

(1) All fasting blood sugar determinations were within normal limits.

(2) The peak of blood sugar concentration in all patients was distinctly above normal and was delayed in most cases.

(3) There was also a definite delay in the return of blood sugar concentrations to normal.

(4) None of the patients had a significant hypoglycemia following the initial blood sugar rise.

From the apparently conflicting data that has thus far been collected in this and other studies, certain definite conclusions concerning gastrectomized patients may be made. Other very important facts remain uncertain and can be answered only as additional experience is accumulated.

The following facts at the present time seem well established:

(1) The majority of patients, if free of metastasis, are able to return to a normal mode of life. They gain weight, although frequently the gains are small. Their appetites and bowel habits are normal and they are able to resume their usual occupations.

(2) Anemia develops soon after operation but may be corrected by an adequate intake of ferrous iron.

(3) Usual blood chemical values are within the normal ranges.

(4) Liver function remains adequate.

Other observations requiring further investigation before their final evaluation are the following:

(1) There is a wide variation in the ability of these patients to assimilate the dietary protein and fat. The majority of the patients excrete normal amounts of unabsorbed protein but excessive quantities of fat. At present these variations, however, cannot be correlated with the clinical course of the patients in the limited group studied.

(2) The abnormalities of the glucose tolerance curves of the patients observed by Farris, Ransom and Collier<sup>9</sup> were considered a result of rapid glucose absorption from the intestine. The abnormalities consistently demonstrated in the present series cannot be explained on this basis. Additional studies on this phase are indicated.

(3) The total number of patients who have survived total gastrectomy for over five years must be small. Up to 1943 only 16 patients were known to have lived over three years. At least three authentic cases of macrocytic or pernicious anemia (including the case in this series) are known to have developed more than five years after operation. What percentage of gastrectomized patients will develop this late complication is unknown.

(4) There is suggestive evidence that there may be a small number of patients whose bodily functions do not become satisfactorily adjusted to the absence of the stomach.

#### **Summary**

The postoperative courses of patients following total gastrectomy seem to fall into one of four groups:

(1) The occasional patient experiences little or no digestive distress after operation and within a few weeks is taking an almost normal diet with ease.

The remaining patients suffer mild to moderately severe digestive adjustments, which may follow any one of the three courses described in the remaining groups.

(2) Digestive symptoms merge with the symptoms of early recurrence and the patient dies without ever having fully recovered from operation.

(3) Digestive symptoms grow progressively less disturbing and in six to 12 weeks the patient resumes a fairly normal dietary and work regime.

(4) There is a rare case in whom persistent digestive complaints weaken the reserve of the patient to a point where slight additional nutritional interference may cause an unexpected death.

From theoretical considerations a block resection of the entire stomach and regional lymph nodes would seem to offer the best chance of eradicating a malignant gastric neoplasm. Actual statistical evidence that total gastrectomy produces better five-year survival rates than sub-total gastric resection is not at present available.

#### **Bibliography**

1. Pack, George Thomas; Livingston, Edward Meakin: End-results in the Treatment of Gastric Cancer, 1939.
2. Niazi, Suad; State, D.; Treloar, A. E.; Wangenstein, O. H.: The Relationship of Gastric Acidity to Gastric and Extragastric Neoplasms, *Surgery* 26: 131, July, 1949.
3. Graham, Ruth M.; Ulfelder, Howard; Green, Thomas H., Jr.: The Cytologic Method as an Aid in the Diagnosis of Gastric Carcinoma, *Surgery, Gynecology and Obstetrics*, 86: 257, March, 1948.



4. Roach, John F.; Sloan, Robert; Morgan, Russell Hedley: Personal Communication.

5. Hall, George C.; Dowdy, Andrew H.; Penn, Harry S.; Belamy, Albert W.: Report American Association for Cancer Research Meeting, April, 1950.

6. Scott, H. William, Jr.; Longmire, William P., Jr.: Total Gastrectomy. Report of Sixty-Three Cases, *Surgery*, 26: 488, September, 1949.

7. Collier, Frederick A.; Kay, Earle B.; McIntyre, Robert S.:

Regional Lymphatic Metastases of Carcinoma of the Stomach, *Archives of Surgery*, 43: 748, 1941.

8. Weinberg, Joseph; Greaney, E. M.: Identification of Regional Lymph Nodes by Means of a Vital Staining Dye During Surgery of Gastric Cancer, *Surgery, Gynecology and Obstetrics*, 90: 561, 1950.

9. Farris, J. M.; Ransom, H. K.; Collier, F. A.: Gastrectomy—Its Effects on Nutrition and Hematopoiesis, *Surgery*, 13: 823, June, 1943.

## 7 CANCER *Danger Signals*

1. Any sore that does not heal.
2. A lump or thickening in the breast or elsewhere.
3. Unusual bleeding or discharge.
4. Any change in a wart or mole.
5. Persistent indigestion or difficulty in swallowing.
6. Persistent hoarseness or cough.
7. Any change in normal bowel habits.

# The Use of Radium in the Treatment of Endometrial Cancer

A. N. Arneson, M.D.

St. Louis, Missouri

Carcinoma of the endometrium presents a different set of circumstances, and different type of behavior than does carcinoma of the cervix. One of the main distinctions between the two is the favorable curability of endometrial cancers. That has been attributed to tendency for the tumor to remain within limits of the myometrium. Many years ago the College of Surgeons collected statistics to establish the average curability for the disease in operable patients and arrived at a value of somewhere between 60 and 65 per cent. Since that time, other series of collected statistics have established for the ordinary simple hysterectomy a survival rate of the same order.

Obviously all patients are not operable. Endometrial cancer occurs in an older age group. It is associated rather intimately with diabetes, cardiovascular disease, and obesity. All of those factors contribute to inoperability in some patients even though they present what appears to be an early lesion, and present a tumor that is believed to remain for long periods of time within limits of the myometrium itself.

Due chiefly to work contributed by Heyman, considerable experience has been gained in the treatment of endometrial cancer with radiation. With gradual improvement in clinical results the method was extended to operable patients. Statistical values have been obtained that equal the results obtained from hysterectomy alone.

About 15 years ago, we began at the Barnard Hospital a program of pre-operative radiation in the operable cases of endometrial cancer. That program subsequently became a routine procedure and has extended also to the patients at the Barnes Hospital. A review of that experience may help establish some facts upon natural history of the disease and some rationalization for treatment.

Endometrial cancer has a tendency toward invasion of the cervix. Extension of the tumor in that direction opens pathways for spread available to cervical cancer. The prognosis is impaired, and most authors consider cervical invasion as evidence of inoperability for endometrial cancer.

Prognosis is affected also by size of the uterus. With uterine enlargement there is a lesser survival rate than for patients with uteri of normal size. An exception to that rule is to be noted for methods of radium treatment patterned after the "packing"

method described by Heyman. Filling the uterine cavity with radium tubes provides a more uniform method of distribution and is a method essentially independent of uterine size.

Microscopic appearance of tumor also has a close relationship to end results. The prognosis in well-differentiated forms is much better than for anaplastic varieties. One might expect the undifferentiated tumor to be more sensitive to radiation, but it is that variety which is apt to be found persistent in gross specimens removed after pre-operative irradiation.

Persistence of tumor in the uterus after pre-operative irradiation is evidence of poor prognosis. The five-year survival rate for those patients is on the order of 45 per cent. Among patients in whom no evidence of residual tumor is found the survival rate is on the order of 80 per cent.

The amount of pre-operative irradiation and the plan of treatment is obviously related to tumor effect. Radium applied as an intra-uterine tandem will result in destruction of tumor in only about 50 per cent of patients so treated. Packing the uterus with multiple capsules of radium results in disappearance of tumor in about 75 per cent. For 100 patients treated by the latter method we may expect to find residual tumor in 25 uteri, with survival of 45 per cent of those patients, or a total of 11. Of the 75 patients showing no residual tumor, there is to be expected an 80 per cent survival, or a total of 60. Thus, 71 patients of the original 100 should be alive and well five years after treatment. That may appear to be a small gain over the survival rate of 60 per cent to 65 per cent for hysterectomy alone, but any gain in survival rate for cancer is important.

The plan of treatment can be divided into two classes, depending upon the performance of hysterectomy. In all patients treatment is begun with x-rays, but if the patient is suited to hysterectomy the amount of x-ray employed is only half to two-thirds that used in the treatment of cervical cancer. Larger amounts of x-ray can be employed if treatment is to be by radiation alone.

Following completion of x-ray the uterus is treated by packing the cavity with multiple tubes of radium. Additional sources are also used in the vagina. A single radium treatment is used if hysterectomy is to be performed later. The dose per tube is on the order of 500 mgm hours radium radiation,



but where a large number are employed it may be possible to decrease the contribution from each source. Hysterectomy is performed as soon as an operation of that magnitude is considered practical. If delay is longer than six weeks there is opportunity for recovery and renewed growth of tumor not destroyed by irradiation. The usual interval is about

three to four weeks.

Patients not to be treated surgically are given two separate applications of radium about seven to 14 days apart. For that fractionation there is increase in the total dose that can be given. The uterus is sometimes of smaller size at the time of the second application.



# Cancer of the Head and Neck Including Cervical Lymph Node Dissections

Herbert Willy Meyer, M.D.

New York, New York

The subject this afternoon, namely cancer of the head and neck, has always been a most interesting one. I have worked in this field many years. I had the good fortune of working with some of the outstanding cancer surgeons in New York City at the old New York Skin and Cancer Hospital. The hospital was founded in 1882 and was the oldest institution in the United States to be founded for the treatment of diseases of the skin and cancer. There is no question but that our merger with the Post-Graduate Medical School of the New York University-Bellevue Medical Center will be a great step forward.

For the last 30 or 40 years the surgeons who preceded us in cancer work were tremendously interested in the two types of cancer that we see so much of in the head and neck, namely the basal cell carcinoma and the squamous cell carcinoma. Let us remember that the squamous cell carcinoma, as Dr. Curtis showed us so beautifully yesterday, is the type of carcinoma that metastasizes readily along the lymph vessels to the regional lymph nodes. The basal cell carcinomas do not metastasize. As they grow and spread they will invade the surrounding structures, and unless removed or destroyed 100 per cent will unquestionably recur and cause further damage.

We have been trained to look upon squamous cell carcinoma of the head and neck the same as we look upon cancer of the breast, malignant tumors of the extremities, cancer of the lung, the esophagus, the stomach, the pancreas, the gall bladder, the colon, or any place in the body where cancer can occur. We think of the primary tumor and the regional lymph node field in the attempt to eradicate this disease. Therefore, at our hospital, for the past 30 or 40 years, especially under the guidance of the late Dr. George H. Semken, who wrote the splendid chapter in Nelson's Loose Leaf Surgery on surgery of the neck, we have almost routinely performed what is known as a prophylactic lymph node dissection. In cancer of the breast, and elsewhere in the body, we know that it is almost impossible to tell by physical examination whether there are microscopic cancer cells present in the regional lymph nodes. Therefore, we feel that in cancer of the head and neck of the squamous cell type the malignant cells may drain into the regional lymph nodes. Therefore, the

regional lymph nodes are a part of that cancer field, just the same as they are anywhere else, and should be removed surgically before one finds a large lymph node in which one can easily prove that there is a metastasis.

Just a week before I came here I saw a man in our tumor clinic at Bellevue Hospital who had undergone an operation for a small carcinoma of the lower lip two years ago. He had a small scar one centimeter long with no evidence of local reappearance. It was a beautiful result. When he presented himself in our tumor clinic he had a swelling under his jaw attached to the periosteum of the mandible measuring two and a half centimeters in diameter, a direct metastasis from the carcinoma of the lip. If this patient had had a prophylactic lymph node dissection two years ago, perhaps only a suprahyoid one, being a lip case, including the submental, the submaxillary and carotid nodes he would not have presented himself to us with a large metastatic tumor adherent to the mandible, necessitating resection of the mandible. Therefore I will show you some lantern slides with which I can point out some of these facts.

You see in the work that was done in 1899 and 1900 by Dorendorf and Most that the lymphatics from the lip and from the mucous membrane of the mouth drain into the submental lymph nodes, and in the midportion of the lip they drain to both sides, and you see the lymph nodes in the submaxillary triangle and especially the node that lies on the jaw along the external maxillary vessels. The drainage then passes in front of and across the jugular vein into the chief node lying over the jugular vein and then to the posterior digastric triangle and down the posterior cervical chain region to the supraclavicular fossa. On the basis of this knowledge of lymphatic drainage and the exact location of those lymph nodes, operations have been devised for the removal of those lymph nodes.

If one is going to wait until there is a palpable lymph node that you prove by aspiration biopsy to contain metastasis then you must do a complete block dissection right down to the clavicle, with the removal of the sternocleidomastoid muscle and of the internal jugular vein. If, however, you are going to do a prophylactic lymph node dissection and remove those lymph nodes before you have proven carcinoma in them, you can accomplish this accord-



ing to the technique that has been so beautifully worked out by the late Dr. George H. Semken and described in Nelson's Loose Leaf Surgery.

In this operation you do not have to resect the internal jugular vein, or remove the sternocleidomastoid muscle, but you take the entire sheath of the jugular vein as you do in the axilla or as you do in the groin dissections. The lymph nodes are attached to the sheath of the vein and come away with the sheath of the vein. You remove the fascia of the sternocleidomastoid muscle and preserve the spinal accessory nerve, and you can do this dissection on both sides of the neck without much deformity and no danger of disturbance of venous circulation and with no reappearance of carcinoma in the field.

The incision that we use in our clinic is the incision that Dr. Semken devised, and if you do a complete dissection you add the curve (de Quervain) outwards. This lays open the entire neck so that you can do the dissection all the way from the mandible down to the clavicle. You see where the upper flap is reflected upward without the platysma; the course of the lymphatics passes through the platysma muscles into the submaxillary and submental regions. Down below you can leave the platysma attached to the skin flaps. Here you see how the submental triangle has been cleaned out completely and the submaxillary triangle, the external maxillary vessels ligated on the mandible and that is where the very important lymph node is situated. The external maxillary vessels are ligated at the posterior belly of the digastric muscle and the duct of the submaxillary gland where it passes under the mylohyoid muscle. Here you see the field at the end of the dissection, and when you do a prophylactic lymph node dissection, before there is cancer in the field, especially in lip cases, you can stop at the level where the omohyoid muscle crosses the jugular vein. You do not have to do the supraclavicular lymph node dissection unless the histological examination shows cancer above. In that instance you immediately go ahead in a couple of weeks and complete the supraclavicular lymph node dissection. This slide shows the jugular vein completely freed of its sheath with the lingual vein and the superior thyroid vein coming in here.

The wound is sutured with a small drain in the submaxillary region and a small drain in the posterior cervical space. This is a specimen from one of these prophylactic lymph node dissections, and here again, as in the breast cases with the axilla, we mark the lymph nodes at the lower pole of the parotid with one black silk marking thread, two black silk marking threads at the omohyoid lymph nodes, three black silk marking threads at the posterior digastric region behind the posterior belly of the digastric,

four threads at the submental lymph nodes. Here are the submaxillary lymph nodes with the chief node, and here the lowest limit of the posterior cervical dissection, which is marked with six threads. The pathologist separately reports the lymph nodes taken from those different regions. We will then know whether we have to go ahead with the dissection on the opposite side or whether we have to do a supraclavicular lymph node dissection.

If you do a supraclavicular lymph node dissection, as for instance in some cases of breast carcinoma or other lesions, then this is the incision that we use, and this is the field at the end of the operation where you see the internal jugular vein joining the subclavian vein, the thoracic duct entering at this junction and the phrenic nerve running on the scalenus muscle. This is the specimen as it appears with the platysma at the completion of supraclavicular lymph node dissection.

These are some lesions of the lip. I show this one in differential diagnosis. It is a chancre of the lower lip. Never fail in any tumor case of the head and the neck to think of routinely doing a Wassermann examination. It will help you out of many embarrassing situations.

This is a man with a carcinoma of the lower lip which goes as far as the midline. I was very interested to hear Dr. Curtis say that they used to do prophylactic lymph node dissections at Ann Arbor but they do not do them any more. We still do them. Dr. Robert H. Kennedy of our clinic has studied the cases of cancer of the lower lip. He found, in our clinic, that even when lymph nodes in the neck were not palpable, in 14 per cent of the cases there were metastatic lymph nodes found at the time of prophylactic lymph node dissection. In tongue cases, 39 per cent metastatic lymph nodes were found even though the lymph nodes were not palpable. In our clinic we use V-excision and at the time when we do the V-excision perform one side of the prophylactic neck dissection.

Here you see the specimens removed from this patient. He had a bilateral prophylactic neck dissection because the cancer involved the middle third of the lip, and we know that this location drains to both sides of the neck. These dissections were done two weeks apart. Here is this patient after the operation of the V-excision with the bilateral lymph node dissections. He lived for 18 years without any further trouble. We did not have to worry about him even if he did not come to follow-up clinic. We know he would not come to us with a big lump on his jaw as the man I told you about at Bellevue Hospital within the past 10 days.

This is a patient with an extensive carcinoma of the entire lower lip. I always like to say what Dr.

William Worrall Mayo said, the father of Dr. Will and Dr. Charlie, "Any cancer that comes toward you is not as bad as a cancer that goes away from you." These fungating tumors are not as bad, do not metastasize as early as the infiltrating lesion. This man was operated on by a modified Dieffenbach cheiloplasty according to technique devised by Dr. Semken. A bilateral lymph node dissection was included and he has stayed well. It is about 18 years since the operation, and there is no further trouble. Here you see him from the side, a little Thiersch graft in here, and here you see the scar going down the neck, due to the bilateral lymph node dissection.

Here is another case which was treated in a little different manner, where a pedicle flap was swung to form a lower lip. This is a man, similar to the one at Bellevue Hospital, who had a little lesion at the angle of his mouth treated by radium. The radium cured that carcinoma of the lower lip, but he did not come in for follow-up. In a big city like New York we do not have enough social workers nor do we have enough money to follow the patients who move sometimes every year from one place to another. He had been treated by radium elsewhere. When he did come to us all of the lymph nodes in the neck were full of metastatic carcinoma. If he had had a prophylactic lymph node dissection at the time of the radium treatment he would not have lost his life the way he did.

As far as carcinoma of the tongue is concerned Küttner showed that there is a decussation of the lymphatics along the median raphe of the tongue, and the lymphatics then go down past the lower pole of the tonsil into the neck. Therefore in every tongue carcinoma the cancer field includes the entire lymphatic field on both sides of the neck. If you want to try to arrest the disease you have to do a bilateral lymph node dissection and that dissection has to go from the mandible down to the clavicle on both sides because the lymphatics of the tongue, decussating, go through the hyoglossi muscles and can go right down along the omohyoid muscle into the supraclavicular fossa, skipping the nodes that lie over the jugular vein area. In the lesions in the posterior third of the tongue they are more apt to go to the chief node over the jugular vein first. When the lesion is in the anterior third of the tongue the lymph nodes that may be involved first may be in the supraclavicular fossa, whereas in the floor of the mouth and the posterior third of the tongue the nodes that lie over the jugular vein are the ones that are first involved.

This is a case of leucoplakia of the tongue. Dr. Curtis showed you in beautiful Kodachrome slides yesterday that leucoplakia of the tongue is a precursor of cancer.

Here you see a lesion that we must never forget, and that is tuberculosis of the tongue. In tuberculosis of the tongue you always have the symptom of pain. In this slide you see a typical carcinoma of the tongue. It does not matter much whether you treat carcinoma of the tongue by irradiation or by surgery. The primary lesion must be arrested first. Then one has to perform a bilateral lymph node dissection from the mandible right down to the clavicle on both sides of the neck in two stages. Dr. Morrow of our clinic studied these cases and found that in 39 per cent of tongue cases when you could not palpate lymph nodes, lymph nodes were, however, involved. In 52 per cent, if you palpated lymph nodes, those lymph nodes not only showed hyperplasia but they were involved by carcinoma.

As far as carcinoma of the soft palate is concerned, one may be able to remove it by surgery. If the lesion involves the tonsil or the base of the tongue, then there is no question but that irradiation is the better method of treatment, but you will also want to perform a lymph node dissection.

This is a man who had a small lesion in the floor of his mouth. He was an old man. He had had two coronary attacks, and we excised the floor of the mouth. On histological examination we found that the lesion was an infiltrating malignant lesion. Therefore, secondarily, we removed the floor of the mouth with the cauterized area of our previous operation in continuity with a complete lymph node dissection, dropping the floor of the mouth into the neck. You see here the final result with the skin of the neck drawn up under the mandible. He stayed well for four years, then he went to France and we lost track of him. He was a Frenchman, and we heard some years later that he had died.

In extrinsic carcinoma of the larynx, it has been our custom to perform a total laryngectomy with a bilateral lymph node dissection at the same time. Here you see the specimen of this patient who has now been alive for 28 years. A Gluck type of tracheotomy was done. There has been no reappearance of the carcinoma. If it is an intrinsic lesion you can just do a laryngectomy without lymph node dissection at the same time, and do the node dissection secondarily.

Now here you see a case of a patient who had a lesion on the inside of her lip. She had had a recent severe coronary occlusion. She had had intensive x-ray treatment for epilation purposes 15 years before, and, on the basis of that irradiation dermatosis, she developed this carcinoma. It grew like wildfire, and it not only grew from inside the mouth on the gingival surface, but it grew out to the surface of the skin. In spite of the fact that the medical men said she was an exceedingly poor surgical risk, we



operated on her and resected the mandible with the tumor and you see the inside of the specimen here with the carcinoma on the gingival surface, and the mandible. Here you see the patient after the operation with plastic repair by a modified Dieffenbach cheiloplasty. In this instance we did not do a lymph node dissection because she was such an exceedingly poor surgical risk. This was done about a year ago and her condition is fairly satisfactory.

Here you see a lesion on the inside of the cheek. It is a fungating tumor and in this type of case you can excise the tumor inside the cheek, and in a lesion like that of low grade of malignancy, you can put a thick split graft on the inside of the cheek. But in other cases like this old man you can see the tumor adherent to the skin. This man was 80 years old. In this instance we had to excise the large tumor which we excised with the angle of the mouth and the skin to which the tumor was adherent. Here you see the inside of the cheek with this large fungating tumor. Two weeks later we did a lymph node dissection and he lived to be 89 years of age. The cheek and angle of the mouth were repaired by sliding a large cheek pedicle flap forward.

This is a case where we removed a tumor of the parotid which we thought was a mixed tumor. Mixed tumors of the parotid may degenerate into carcinoma and it is sometimes exceedingly difficult to make a diagnosis beforehand. We removed this tumor and found that it was an adenocarcinoma of the parotid. So we went ahead and re-excised our former scar, took out the entire parotid gland in continuity with a lymph node dissection. This man lived for 17 years, and here you see him about 10 years after the operation. He died 17 years later from a carcinoma of the prostate, having been admitted to another hospital in New York, and we were able to obtain an autopsy report on him.

Here is a man who had a cancer on the inside of his cheek. A radical procedure was performed, in which we excised the inside of the cheek with overlapping skin and did a complete dissection down to the clavicle in continuity. All of the lymph nodes were involved. He lived for four years and then died from a hemorrhage from the internal carotid artery. We obtained an autopsy on him and there was a metastasis way back in the upper part of the pharynx. Here is the patient after the operation. He lived for four years.

This is a specimen of a carcinoma of the maxilla in which the entire maxilla was resected. It is a very simple and easy procedure, with an incision that is made down along the nose and through the mid-line of the upper lip. A large skin flap is reflected and the maxilla resected. The cosmetic result is good.

This chauffeur was burned on his cheek with a

cigarette. He developed an intractable ulcer. He read in the newspaper about some caustic paste that would cure cancer. So he put caustic paste on the ulcer and this is what the caustic paste did. When he came into our hands a couple of years later, this is the way he looked, with a large ulcer and the maxilla exposed. We took biopsies along the edge.

Talking about biopsies, let me digress just a moment. Always biopsy every lesion that does not heal. If you do not get a positive report and suspect cancer, repeat the biopsy and take a sufficient amount of tissue at the margin of the lesion.

Here you see the tumor that was excised. We then took a pedicle flap from the forehead and swung that forward. Three weeks later the pedicle was divided and returned to the forehead. Here you see him after that operation. We followed him for four years and he had no further trouble. He then went down to Maryland and we lost track of him. When he came back during the fifth year, he had a small perforation near the nose. When we examined the inside of the lip he had a reappearance of the carcinoma. We told him we had to do a very extensive operation.

We first prepared a flap on the one side of the cheek, and another flap on the other side of the cheek, and sewed them back in place, the so-called delayed flap. Ten days later we excised the maxilla and tumor. Here you see the perforation in the upper lip, and here you see the maxilla. Looking down into the specimen you see the floor of the nasal fossa and the floor of the antrum. On this side you see the carcinoma that had reappeared in the gingival sulcus. Then the two flaps were swung in to form the new upper lip, the larger cheek flap to form the outside of the upper lip and the smaller flap from the other cheek to form the inside of the lip. Three weeks later the pedicles were divided and implanted. Here you see the case completed with the denture in place. It shows how he can open his mouth, having reformed the upper lip by this form of reconstruction surgery. He has remained well 12 years.

Here you see a man who had a baso-squamous cell carcinoma on his cheek which he had neglected. He was an executive of a corporation in New York and he just wore a patch over the lesion. We excised the tumor with the underlying bones to which it was attached. It was repaired by a pedicle from the forehead and he remained well 11 years and finally died with hypertension and a stroke.

This patient had a basal cell carcinoma of the nose. These cases we excise and repair with a full thickness skin graft taken from behind the ear. This is the result with the full thickness flap healed in place.

Here you see another patient with a more advanced lesion on the nose. Here the underlying bone must be removed and the defect repaired by a pedicle forehead flap, a typical rhinoplastic flap repair. We worry about the lesions at the ala of the nose. They are bad actors. We prefer to treat these by radical surgery, to be sure that we have the whole lesion out. We repair the defect by taking a forehead flap from the forehead and cheek flap from the side. Here you see the patient after such a procedure. She remained well for 15 years.

This is an old lady who had radium treatment, elsewhere in New York State, for a similar ala lesion. The radium treatment burned a hole through the nose. However, when we did a biopsy we found that she had a carcinoma in spite of the extensive radium treatment. So here we have the specimen. You can see how the carcinoma has grown into the floor of the nose. It required excision of a portion of the maxilla, and we repaired that by taking a flap from the forehead to form the side of the nose, a cheek flap swung forward to form the upper lip. Here the occluding denture is in place. If you have removed so much of the maxilla some of the dentures will not stick to the remaining palate, even with stickum. Then the orthodontist must make a plate like this one, with two springs on either side which will hold the upper plate against the perforation that goes from the mouth into the nasal cavity.

In this case you see a patient with a lesion on the side of the nose infiltrating the inner canthus of the eye and extending into the orbit. It was adherent to the bone and we knew that we had to do a wide excision with an exenteration of the orbit in order to arrest that disease. This is the specimen, with the eye of the exenterated orbit, the side of the nose, the side of the cheek with the outer wall of the maxilla, the nasal bone, and the ethmoid cells. The defect was repaired with a flap taken from the forehead. This operation was done 27 years ago and I hear from her every Christmas. She lives in Pennsylvania and she sends a Christmas card stating she has had no further trouble.

This is a very old lady who has had many operations for basal cell carcinoma of the cheek. She had also had intensive x-ray treatment. She had one of those infiltrating basal cell carcinomas of the side of the cheek and it was adherent to the mandible. She was over 80 but she suffered so intensely that her son, who is a doctor in Detroit, and a daughter, and the patient herself pleaded that something be done. She could not stand more irradiation. So we prepared a long tube flap on the chest, prepared a flap on the chest at the end of the tube, and then excised the entire lesion. You see the specimen con-

sisting of the ear, all of the skin of the cheek, the angle of the mouth and going down onto the neck. Here you see the repair. The ear was removed, and this opening shows where the ear canal is. We took a pedicle scalp flap from the forehead to help close the defect, and this is the tube flap taken from the chest. That was two and a half years ago and she is now 83½ years old, and at least is relieved of the suffering she went through.

This patient is a doctor, a doctor who would not heed the advice given to him by other doctors. He had had intensive x-ray therapy for acne as a young boy and on the basis of radiation dermatitis he developed a carcinoma at the ala of his nose. He then had a lot of radium treatment. He was sent to me to have a reconstruction operation performed because they thought he had a radium burn. He was addicted to morphine as he suffered so intensely. Something had to be done. I felt sure that there was still carcinoma there. We took eight biopsies from the inside of the nose and from various regions of the lesion and in all of them there was a positive biopsy. So here again we had to do a resection of the maxilla, the nose, and the floor of the nose.

To repair the damage which you see here, we did one of Dr. Gordon New's sickle flap repairs. You see here how you prepare the sickle flap in stages, putting a Thiersch graft on the under side of the flap and on the pericranium. Here you see the flap completely prepared, adherent on the forehead and in front of the ear from where it gets its blood supply through the temporal artery. Here you see that flap lifted away with the Thiersch graft healed in place on the pericranium and on the undersurface of the flap. Then you divide the flap at the forehead, implant it into the defect, leave it there for three to four weeks, and then divide the pedicle. The remainder of the flap is returned to the forehead. The implanted flap is allowed to stay until new lymph vessels and venous channels have formed. It is then moulded into shape to form a new ala. Here you see the end result. This operation was performed three years ago. He is a doctor in Elmira, New York, and so far he has had no further trouble and is no longer on morphine. A neck dissection was done for a metastatic cervical lymph node.

This is a hemi-glossectomy performed on a man who was a heavy drinker and a heavy smoker. When it comes to carcinoma of the tongue as Dr. Curtis said yesterday, if the patient has a positive Wassermann, the prognosis is always much more serious. In our clinic we have not had a single case of carcinoma of the tongue, accompanied by syphilis, in which the disease has been arrested for five years. It is a very bad combination. They have all died of carcinoma before five years.



This man had neglected himself. He drank two quarts of bourbon whiskey a day, and with great difficulty, under endotracheal anesthesia, we did a hemi-glossectomy. Here is one of the specimens of the complete bilateral lymph node dissections in which you see the submental, the submaxillary, the omohyoid, the lower pole of the parotid, the crossing across the jugular vein with the chief carotid node, the posterior digastric and the entire posterior deep chain of lymph nodes including the supraclavicular lymph nodes. He had involvement in eight or ten of the lymph nodes on both sides of the neck though no nodes were palpable on examination. He lived for two years. There was no local reappearance, either in his tongue or on either side of the neck, in the operative fields. Then suddenly he was riddled with carcinoma. We obtained an autopsy on him. The autopsy revealed generalized carcinomatosis including his heart muscle, and every organ in his body was just riddled with carcinoma. There was no reappearance in the fields of operation.

I am eager to show this case because it teaches an important lesson. This is a woman who had a toothache. On account of the fact that she had a toothache she went to a dentist in Washington, D. C., who extracted a tooth. The socket did not heal and he thought she had an infection. Therefore the patient was put on penicillin, kept on penicillin for three months and still the socket did not heal. The socket was curetted several times and "granulation" tissue removed. Finally, at the end of three months, a surgeon in Washington, who was asked to examine the patient, had the important idea, which the dentist should have had long before, that a biopsy should be done because the wound would not heal. A biopsy was done on the tissue from the socket of this tooth, and she had a carcinoma. What had happened was that she had a carcinoma in the antrum which had caused her toothache. The tooth was extracted and the carcinoma then grew down through the tooth socket and presented in the tooth socket. Always be suspicious of a cancer in any part of the body and try to make the diagnosis, as you saw in that beautiful moving picture film of the American Cancer Society this morning—"Early Suspicion, Adequate Diagnosis, and Efficient Treatment."

Here again you see a doctor, one of our former well known anesthetists in New York, who had a lesion under his jaw. He had given anesthesia for innumerable patients who had cancer. Yet he did not think of cancer. A doctor friend in upper New York State, where the patient was on summer vacation, examined him and also did not think of cancer. He went into a clinic in a city up-state and the friend incised the swelling under his jaw under local

anesthesia, thinking it was an abscess. He obtained blood and had great trouble in stopping the bleeding. The patient was sent back to his summer home with the wound packed. Four months later, after his vacation, he came to New York. Another doctor treated him with penicillin and then referred him to me. I took him to the hospital. I suspected that it was carcinoma. Biopsy was done within 24 hours and showed that he had a virulently growing ulcerating carcinoma occurring in the submental and submaxillary regions. He had had two coronary thrombosis attacks and he had two hemiplegic strokes and he was really in bad shape. Still we excised the tumor of his neck with the mandible. The specimen shows the mandible and surrounding tissues. The repair of the defect was achieved with a pedicle flap taken from the chest. Well, this dear old gentleman lived for a year and a half and then died of general carcinomatosis. I show you these slides to impress upon you the fact that any lesion that does not heal is more apt to be carcinoma than chronic infection.

This is a man upon whom we did another of these extensive resections of the mandible with a complete lymph node dissection, where again a biopsy had been taken in another good hospital in New York. The biopsy was reported negative. A second surgeon did another biopsy. This biopsy was also reported negative. When we examined the slide of this last biopsy there were tiny minute fragments of tissue on the slide. Let me urge you to take out the whole lesion as the biopsy, if it is a small lesion. If it is a big lesion, then take enough tissue to enable the pathologist to make a diagnosis. Give the pathologist a chance. In this case, an oral surgeon in New York finally performed an adequate biopsy and the pathologist found that in the region of the alveolar margin of the mandible there was a carcinoma growing. Every lymph node in the neck was involved. You see here the resected mandible and the cervicle nodes removed in continuity. We used a heavy dental wire to hold the fragments apart and you see this wire on the x-ray. From the side you again see the dental wire put into the mandible and into the ascending ramus. Usually one repairs the gap later with a rib implant or a section of the crest of the ilium after removing the wire. Because this man had all of the lymph nodes involved we did not do a bone implant. After two years he had a reappearance of the carcinoma and died from it. This cancer could have been diagnosed a year and a half earlier if a sufficiently large biopsy had been taken. This slide shows the man after the operation with the mandible resected. The other side shows the scar of the lymph node dissection. The lymph nodes on both sides of the neck were involved.

Finally, this is the case of a woman who was a heavy smoker. She had a very extensive carcinoma of the buccal mucosa. We had to excise all of the cheek, that is the inside of the cheek, all of the muscles of the cheek, and the only tissue that we could save was the skin of the cheek. In a case like this we make an incision through the lateral portion of the lower lip, turn the cheek flap up, and then take a forehead pedicle flap and turn that forehead flap inside so that the skin of the forehead forms the inside of the cheek. After three weeks the pedicle is divided, returned to the forehead and then the skin of the cheek, which was the only tissue we could save, is on the outside and the skin of the forehead lines the inside of the cheek. Here you see this patient after the operation. We also performed

a lymph node dissection. She had metastases in the nodes of her neck. Here she is with her denture in place and with her mouth wide open. You can now see the skin of the forehead lining the inside of the cheek. She has remained well two years so far.

In closing I would like to impress one thing upon you. Dr. Stanley Reimann of Philadelphia has aptly stated, "Unless you remove a cancer 100 per cent the patient is eventually going to have a reappearance of the cancer." Therefore in any lesion suspected to be cancer, especially lesions that do not heal, perform an adequate biopsy, know the complete cancer field—the primary tumor and lymphatic drainage area—and completely and efficiently remove it. Remember the slogan, "Early Suspicion, Adequate Diagnosis, Efficient Treatment."





## Bronchiogenic Carcinoma

Alton Ochsner, M.D.

New Orleans, Louisiana

Bronchiogenic carcinoma is a very common lesion and is increasing more than any other cancer. It has become one of the most frequent cancers in men. Although it occurs about three times more frequently in men than in women, its incidence in women is also increasing. There has been considerable speculation concerning the cause of the tremendous increased incidence of bronchiogenic carcinoma in the past 25 years. I am convinced that the increased incidence is due to the increased use of cigarettes. There is a distinct parallelism between the incidence of bronchiogenic carcinoma and the sale of cigarettes and there is evidence that tobacco contains substances which are carcinogenic.

Dr. Evarts Graham, whom all of you know, for many years would not agree with me that there was causal relationship between cigarette smoking and bronchiogenic carcinoma. As a matter of fact he used to chide me about my contention and stated that although such relationship exists, there is also a relationship between the increased incidence of bronchiogenic carcinoma and the sale of nylon stockings, which, of course, there is. Relatively recently, Wynham, a young medical student at Washington University, demonstrated in Dr. Graham's own cases, that the incidence of cigarette smoking in patients with bronchiogenic carcinoma is considerably greater than in the hospital and general populations.

We have divided our cases into two groups, those which are resected and those not resected. The incidence is higher in males in both groups; in fact, there is a definite predilection in men. Bronchiogenic carcinoma, as are most carcinomas, is a disease of advancing age, the greatest incidence being in the fifth, sixth and seven decades. However, younger persons are not exempt from the bronchiogenic carcinoma.

We were fortunate in having Dr. Charles Dunlap, the professor of pathology of Tulane, go over all the lungs which have been resected for bronchiogenic carcinoma and classify them according to histologic type and according to the grade of malignancy. It is of interest to see how the histologic type varies with the two sexes. Epidermoid carcinoma is the lesion which is found primarily in men, and adenocarcinoma is a relatively infrequent type. Undifferentiated tumors occur with equal frequency in both sexes. Adenocarcinoma is the most frequent type found in women. We are of the opinion that adenocarcinomas probably originate in an epithelial rest,

or possibly adenomata as Graham and Womack have suggested.

Bronchiogenic carcinoma occurs with about equal frequency in the two lungs, 55 per cent of our resected cases being in the right lung, 45 per cent in the left lung. I would like to call attention to the fact that the upper lobes are involved more frequently than any other part of the lung. This is important for us to know as clinicians because these are areas which are likely to be missed bronchoscopically. I will show you a little later that bronchoscopic examination, although it should be done, is likely not to give a high yield of positive diagnoses, and one of the reasons for this is that bronchiogenic cancers are usually located in the upper lobe bronchi; i. e., they are around the corner and cannot be visualized. Relatively few of them occur in the lower lobe bronchi. Also some occur in the periphery and are not visible. Bronchiogenic carcinoma spreads as do other carcinomas by direct extension through the lymph stream, through the blood stream, and also intra-bronchially. The intra-bronchial extension gives rise to some of the bizarre pictures on roentgenographic plates and must always be kept in mind.

There is one type of extension that I would like to emphasize; that is implantation. As physicians, we are responsible for extension by implantation either as the result of aspiration or as the result of operation. We fear aspiration biopsy because we have seen four patients in whom there was seeding of tumor cells along the aspiration site, and we believe that although this is a valuable method of making a positive diagnosis it shouldn't be used because it may preclude curability.

Lymphatic extension is to the regional lymph nodes. Several years ago Dr. DeBakey and I collected the reported cases of bronchiogenic carcinoma, most of which were observed at autopsy. This study demonstrated that mediastinal lymph nodes were involved in about three-fourths of the cases. Since most of the cases were fatal, the metastases were more extensive than they would be in non-fatal cases.

I would like to call attention to one site of metastases, the skin, which is important because it can be so easily visualized and should always be looked for. Four per cent of our patients had skin metastases. It is imperative in an individual in whom a bronchiogenic carcinoma is suspected that a very careful examination of his entire body be made to determine the presence or absence of skin nodules, because if

they are found one can readily remove one and determine whether the lesion is neoplastic or not. Obviously if there are extensive cutaneous metastases the case is inoperable.

In considering the type of lesion histologically according to age, one sees that up to the age of 50 the three types of carcinoma occurred with about equal frequency, but with advancing age the incidence of epidermoid carcinoma increases and the incidence of adenocarcinoma decreases. If the adenocarcinomas are on the basis of a congenital rest, it is likely that they would occur more frequently in younger people. If the epidermoid carcinoma is due to a chronic irritation over long periods of time, such as smoking, the longer it has been existent, the more likely it is to occur.

The clinical manifestations of bronchiogenic carcinoma unfortunately begin so insidiously that the diagnosis is likely not to be thought of. The most important factor in making a diagnosis of bronchiogenic carcinoma is to think of its possible existence. I emphasize to our undergraduate students that every man past 40 years of age who has an unexplained thoracic discomfort must be considered as having a bronchiogenic carcinoma until proved otherwise. Obviously not all such patients will have a bronchiogenic carcinoma but a large number will and relatively few diagnoses will be missed.

Many patients with bronchiogenic carcinoma have the history of a previous respiratory tract infection such as influenza or pneumonia from which they do not recover as they normally should. Unresolved pneumonia is frequently diagnosed and I am sure that although unresolved pneumonia does occur, it is so rare that one should be hesitant about making the diagnosis. Cough, without a doubt, is the most prominent manifestation that these patients have. However, most persons who smoke have a cough, and because of this it is likely to be disregarded. If, however, the cough changes in character it is of great significance. Hemoptysis always demands investigation as does a persistent thoracic discomfort. Most of us are not conscious of the fact that we have a chest, and if for any reason we do become conscious of it, it demands investigation. Wheezing, which previously had not been present, suggests bronchiogenic carcinoma. It means bronchial obstruction and in a man past 40, who previously was free from the symptom, is indicative of bronchiogenic carcinoma.

The late manifestations are those of complications. Fever is due either to break down of the tumor and production of an abscess or to obstruction of the bronchus by the neoplasm with the development of pneumonitis distal to it. I would like to emphasize that a spontaneously occurring lung

abscess, particularly in a man, almost without exception, unless there is a definite story of aspiration or of a frank pneumonia, is caused by bronchiogenic carcinoma. Pain usually means extension to the adjacent structures, i.e., the parietes of the mediastinum. Digestive disturbances in our series have been due largely to involvement of the vagi. Emaciation is a terminal manifestation.

In our series of cases cough was present in 90 per cent, weight loss in 66 per cent, pain in the chest, denoting extension beyond the lung, in 65 per cent, hemoptysis in 57 per cent, previous respiratory tract infection in 53 per cent, etc.

I would like to emphasize that voice change occurred in eight per cent of our cases. There are many thoracic surgeons who are of the opinion that a patient with bronchiogenic carcinoma, in whom there is involvement of the phrenic or recurrent laryngeal nerves, should be considered inoperable. Obviously extension beyond the lung, with involvement of the phrenic or recurrent laryngeal nerves, means that the lesion is no longer limited to the lung, but I do not believe that one is justified in assuming that such a case should not be explored. Sixteen of our patients with evidence of recurrent laryngeal nerve involvement were resectable when they were explored. For the past 15 years we have believed that one is as justified in doing a palliative resection of the lung for bronchiogenic carcinoma as he is in doing a palliative resection of the stomach or of the colon, even though metastases may be present in the liver. Early in our experience we reasoned that palliative resection should be done in order to remove the infected lung and to get rid of the fungating mass which produced the symptoms. I hope to be able to show you that this contention is valid not only because of relief of symptoms but also because of increased longevity.

The diagnosis of bronchiogenic carcinoma is not difficult if one will only think of its possibility. By roentgenography one frequently sees a shadow produced by infiltration by the tumor. There may be obstructive emphysema which is an important early sign. A tumor which will permit air during inspiration to pass the mass but will not permit air to get out during expiration will cause an emphysema. As you know, during inspiration, the bronchi dilate, and during expiration they contract. A tumor not large enough to completely obstruct the bronchus during inspiration will admit air past the tumor into the lung distally. During expiration with the contraction of the bronchus the air is trapped and an obstructive emphysema results. This is an early manifestation and is of importance. If the bronchus becomes completely occluded, the air distal to the point of obstruction is absorbed, and with the pro-



duction of atelectasis casts a massive shadow on x-ray. In some instances, particularly in upper lobe lesions, bronchography is of value. Bronchoscopy is of value and should be done in all instances, not only in an attempt to visualize the tumor which is possible in about only one-third of the cases but also because it frequently demonstrates the extent of the lesion. One can tell whether the carina or trachea are involved.

The most valuable diagnosis in our hands has been the cytologic examination of bronchial secretion. There has been some considerable controversy whether this should be done on sputum alone or whether the material should be obtained by aspiration during bronchoscopy. Obviously if one could make repeated examinations following bronchoscopy this should give a higher percentage of correct diagnoses. In our clinic, sputum examinations have given a higher incidence of positive diagnosis because more frequent examinations are possible. In 80 per cent of our cases, we are able to make a positive diagnosis by cytologic examination of the sputum. Thoracoscopy is of more value from a prognostic than a diagnostic standpoint. We use it when we suspect there might be extension to the parietes. Aspiration biopsy I have already mentioned. I believe that it should be condemned as a diagnostic procedure.

Finally, thoracic exploration is a justifiable method of diagnosis. In the man who, clinically, has bronchiogenic carcinoma and in whom the diagnosis cannot be proved or disproved, thoracic exploration is necessary. It is far better to explore in such an instance than to wait until a positive diagnosis can be made without exploration, at which time it may be too late. (A number of diagrammatic drawings were shown to illustrate the changes in the bronchi and lung which may produce changes in roentgenograms. Also a number of roentgenograms illustrating different bronchiogenic carcinomas were shown).

Bronchoscopically if the tumor is in an area which is visible in the bronchoscopic view it is possible not only to visualize the tumor but also to get a biopsy. On the other hand, if the tumor is in the periphery beyond reach or beyond bronchoscopic view, or if the tumor is around the corner in the upper lobe, bronchoscopy is of little value. In upper lobe lesions, there are two methods which can be used to look around the corner, one by means of an instrument which is like a fore oblique cystoscope, and the other by means of a mirror with a light in the end of it, which permits periscopic vision.

In our 237 cases in which pulmonary resection was done for bronchiogenic carcinoma, there were only 90 in which the bronchoscopic examination

gave positive diagnostic results (38 per cent of all the cases). A negative bronchoscopy, therefore, does not in any way exclude a diagnosis of bronchiogenic carcinoma, because bronchoscopy makes a positive diagnosis in less than 40 per cent. The cytologic examination of bronchial secretion and its efficacy depends upon training and zeal and the pathologist. It is essential that a good pathologist who is trained in cytologic diagnosis be willing to spend a great deal of time in these examinations. I know nothing that is more time consuming and more painstaking than this type of examination. By cytologic examination of the sputum we were able to make a correct preoperative diagnosis in 80 per cent of the cases.

There is only one curative treatment of bronchiogenic carcinoma and that is a pneumonectomy. There are a number of thoracic surgeons who advocate lobectomy. We have done only five lobectomies but feel that a lobectomy should be performed only when a pneumonectomy is contraindicated. A lobectomy is not a curative procedure in bronchiogenic carcinoma. I think it is just as irrational to do a lobectomy in treatment of a bronchiogenic carcinoma as it would be to remove a quadrant of the breast in a breast carcinoma. No one would even think of doing that, and I don't think that we should consider lobectomy in bronchiogenic carcinoma as a curative procedure.

On the other hand, in a man in his 70's, whose vital capacity is low and whose differential bronchial spirometry shows that he might not be able to survive a pneumonectomy or be able to get along on one lung, one is justified in doing a lobectomy, which must be considered a makeshift procedure. Only a pneumonectomy permits the satisfactory and complete removal of all the mediastinal lymph nodes.

In a total series of 705 proved cases of bronchiogenic carcinoma, 237 were resected, of which 77.6 per cent were considered as palliative resections. A resection is considered palliative when the lesion has extended beyond the lung with massive involvement of the mediastinal nodes, the chest wall, the pericardium, or the diaphragm necessitating resection of these adjacent areas. In a little less than 10 per cent the lesion was so extensive that it was impossible to ligate the hilar vessels outside the pericardium, necessitating their intrapericardial ligation. In five per cent of the cases the auricle was actually sutured, in a little less than five per cent the major portion of the diaphragm was resected en masse with the lung and in a little over five per cent a major portion of the chest wall was resected.

Of the 705 cases, there were 295 that were obviously inoperable. They had a distant extension beyond the local lesion which wouldn't permit at

least a palliative resection. There were 410 who were considered operable, 42 of which refused surgery. The latter group is a large number, most of which were at the Charity Hospital. Three hundred sixty-eight were explored, 52 per cent of the entire group. Of the 368 that were explored, there were 131 that were found to be non-resectable, and there were 237 that were resectable. Of the group that were explored but found to be non-resectable, 23.5 per cent died within the hospital. Of the 237 that were resected, 21.8 per cent died in the hospital and 78 per cent left the hospital, which is 26 per cent of the entire 705 cases.

You are interested not only in the mortality rate but in what happens to these patients afterwards. Of all the patients in which a resection was done, and this includes all the patients that died in the hospital, the survival rates fell rather rapidly until the second year, when a plateau is recorded. Of all the cases that had been resected, 20.8 per cent are alive at the end of five years. If these resected cases are broken down into curative and palliative groups, there is obviously a good deal of difference. Of the so-called curative resections, 44 per cent were alive at the end of five years.

However, I am proudest of the palliative resections, because most of these, I am sure, would not have been operated upon by the majority of thoracic surgeons. What would have happened had they not been resected? I can answer that partially because we have followed all of our patients, even those in which resection was done. In the non-resective cases, there are three groups: (1) those in whom resection was thought to be possible but the patient refused operation (2) those who were obviously inoperable and (3) those who were considered operable but who at the time of operation were found to be non-resectable. The last two groups obviously are the most extensive. Of the three groups of cases in which no resection was done, no patient lived as long as three years in spite of the fact that in every instance some other type of palliative therapy such as x-ray or chemotherapy of some type, was used. Only 0.8 per cent were alive at the end of two years, and less than five per cent were alive at the end of one year.

The results in the resected cases stand out in contrast to these, in that 20.8 per cent of all the cases resected and 12.5 per cent of cases palliatively resected were alive at the end of five years. This demonstrates without any doubt that palliative resection is justifiable not only to relieve symptoms but actually to prolong life.

Dr. Longmire this morning spoke about carcinoma of the stomach and as he said, based on our

present statistics in the better hospitals throughout the country, a patient admitted to the hospital with a diagnosis of carcinoma of the stomach has only a five per cent chance of being alive at the end of five years. Dr. Lee Clark of Texas, several years ago, showed that if one considers all the people with carcinoma of the stomach, many of whom do not get to a hospital, the five-year survival rate is from one to two per cent. Carcinoma of the stomach is a lesion, the frequency of which has been appreciated for a long time. We as a profession are cognizant of the frequency with which carcinoma of the stomach occurs. There is not a physician in this audience who hasn't been impressed with the frequency of carcinoma of the stomach ever since he was a medical student, but most physicians consider carcinoma of the lung a relatively rare disease. Actually it has been rare, but its incidence is increasing in frequency. So it is easy to see why physicians have made diagnoses late in bronchiogenic carcinoma because the relative frequency of it is not appreciated.

If we contrast the results in the treatment of bronchiogenic carcinoma with those in the treatment of gastric carcinoma, it is evident that the former are better. Whereas only five per cent of all the patients admitted to the hospital with diagnosis of gastric carcinoma are alive at the end of five years, eight per cent of the patients admitted to the hospital with bronchiogenic carcinoma survived the five-year period even though over 70 per cent were operated palliatively.

When the profession generally becomes cognizant of the fact that bronchiogenic carcinoma is a common lesion and will think of the possibility of its existence earlier, the eight and a half months delay in the diagnosis of our patients will be decreased and the diagnosis will be made earlier so that therapy can be instituted at a time when the lesion is limited to the lung. The incidence of curative resections should then be high and the percentage of five-year survival should be greatly increased.

In conclusion, I would like to reiterate the fact that bronchiogenic carcinoma is a common lesion. It is becoming one of the most common sites of carcinoma in men. It is a lesion that we must think of in every man past 40 who has an unexplained thoracic discomfort, and once the possibility of its existence is thought of the diagnosis is not difficult to make. There is only one form of therapy and that is a pneumonectomy with removal of the regional lymph nodes, the mediastinal lymph nodes. I would like to again make a plea for doing palliative resections because not only will these patients be relieved of their symptoms but also their lives will be prolonged.



# Carcinoma of the Bladder with Special Emphasis On Its Surgical Treatment

R. H. Flocks, M.D.

Iowa City, Iowa

Carcinoma of the bladder is one of the more common cancers. During the years 1932 to 1942, .5 per cent of all the admissions to the University Hospital and five per cent of all the admissions to the Urological Department of the University Hospital were carcinomas of the bladder. Next to carcinoma of the prostate, carcinoma of the bladder is the most common carcinoma seen by the urologist. The following discussion is based upon a study of 540 patients who were seen and treated at the University Hospitals in Iowa City during the period 1932 to 1942.

Since the five-year survival rate of those patients treated early is 55 per cent as compared with five per cent in those treated late, an early diagnosis is of great importance. Although symptomless hematuria is said to be the cardinal symptom and sign of carcinoma of the bladder, many patients do not manifest this symptom and sign at all or only in the later stages. Any disturbance of micturition, any change in the urine may be a manifestation of carcinoma of the bladder. In our series, there have been patients who came to the hospital with a diagnosis of chronic prostatitis or cystitis who later proved to have carcinoma of the bladder. It is therefore a good rule to follow that any patient over the age of 20

who has any disturbance of micturition, should have a cystoscopic examination to rule out carcinoma of the bladder. Early diagnosis makes a tremendous difference in the type of therapy which is to be carried out and in the results to be expected from this treatment.

In addition to early diagnosis, the gross pathology of the tumor is of importance from the point of view of treatment and prognosis. Doctor Jewett of Baltimore in a classical study of patients with carcinoma of the bladder coming to post mortem examination, found that these tumors could be divided into three groups: Group A—the non-infiltrating carcinomas; Group B—carcinoma which has infiltrated into the bladder musculature but not completely through it; and Group C—the carcinoma which has infiltrated completely through the bladder wall and into the perivesical tissues. Whether or not any given tumor falls into Group A, B or C, can usually be determined by a combination of a cystoscopic examination, bimanual palpation under anesthesia, cystographic studies and biopsy studies. When the classification of any given tumor is known, the prognosis is indicated: Of those without any infiltration, approximately 100 per cent are potentially curable; of those with infiltration into the musculature, approximately 85 per cent are potentially curable; and of those where the tumor has progressed through the bladder wall, only 23 per

CHART I

Carcinoma of Bladder



Group A (Jewett) — 100% potentially curable  
167 cases treated by transurethral coagulation, 77% controlled

Cause of difficulty:

- a. Multiple tumors with extensive coagulation → infection of upper urinary tract → death
- b. Change in character of tumors → death due to malignancy

Correction: When multiple, covering much bladder area so that danger of infection is great,—divert urine and do cystectomy or coagulation in dry bladder.

CHART II

Carcinoma of the Bladder



Group B (Jewett) — 86% potentially curable  
249 Cases — 39% controlled

126 Treated transurethraly	53%	controlled
74 Treated transurethraly + irradiation	31%	"
13 Treated partial cystectomy	40%	"
33 Treated miscellaneous methods	10%	"

Difficulties:

1. Primarily infection—local or ascending	13% (34 cases)
2. Primarily lack of destruction of tumors	28% (66 " )
3. Mortality	6% (14 " )
4. Unfollowed	14% (36 " )

cent are potentially curable. The remainder will already have extension into the retroperitoneal nodes or produced distant metastases. By potentially curable, Doctor Jewett meant that no metastases were present and, therefore, complete removal of the local lesion should produce a cure.

Using this classification as a base line, what have been the results in the 540 patients seen in our clinic during the period 1932 to 1942? These patients were treated before our present means of treatment for urinary tract infection were at hand, and therefore, their treatment was carried out under a certain handicap.

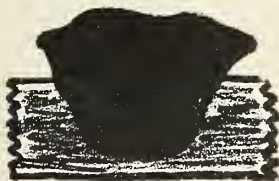
Chart I indicates the results of therapy in the 167 patients who fell into Group A. Seventy-seven per cent were alive and apparently free from tumor five years or more after treatment. Many more of these patients probably would have obtained an excellent result if we had had our modern methods for the treatment of urinary tract infection. Moreover, in some of these, more radical therapy, which is now available, might have produced a definite incidence of salvage.

Two hundred forty-nine of the 540 patients fell into Group B according to Doctor Jewett's pathological classification. Only 39 per cent had a five-year survival as contrasted with a potential curability rate of 85 per cent. One hundred twenty-six of these patients were treated by transurethral resection and coagulation of the base of the tumor, and in this group, 53 per cent had a five-year survival. Seventy-four were treated by transurethral resection followed by intensive irradiation. Only 31 per cent of this group survived five years. Thirteen were treated by partial cystectomy. The reason for this is that most

of the tumors are located at the base of the bladder and partial cystectomy does not permit one to do a radical removal of the lesion if it is located in that area. Only 13 of this total group were so located in the bladder that radical removal could be carried out without removing the bladder. Of this group of 249 patients, 34 died primarily as the result of infection which might have been prevented with the use of antibiotics. Sixty-six of these cases died because of inadequate removal of the tumor. It is of interest to compare these results with the results obtained in 100 cases of total cystectomy for carcinoma of the bladder reported by Doctor Marshall of New York. In this group, which apparently fell into Group B, only 26 per cent were alive and apparently well at the end of two years. It is of interest to speculate whether or not the manipulation incident to the total cystectomy did not do more damage by pushing tumor cells into the lymphatics and surrounding veins than was gained by the more radical removal of the bladder and the original tumor, as compared with what might have been theoretically accomplished by either transurethral or suprapubic electro-coagulation. It may very well be that this type of tumor could be more radically destroyed by electro-coagulation avoiding manipulation if bilateral ureteral intestinal anastomosis is carried out to avoid upper urinary tract infection and urinary extravasation. This thus would produce end results superior to total cystectomy and ureteral intestinal anastomosis.

CHART III

Carcinoma of the Bladder



Group B (Jewett) — 86% potentially curable  
Cases dying primarily from urinary tract infection:

Type of treatment	No. of cases	Operative deaths	Deaths from urinary infection in those who survived operation
Transurethral resection	126	6	21 (17%)
T.R. + X-ray	74	0	11 (15%)
Partial Cystectomy	13	2	2 (15%)
Totals	213	8	34

CHART IV

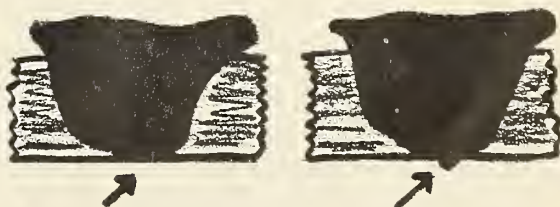
Carcinoma of the Bladder



Group B (Jewett)  
Correction:

86% potentially curable

1. Divert urine and more adequately destroy tumor by total cystectomy or electrocoagulation.
2. Partial cystectomy is applicable in only a small percentage of the cases.
3. Total cystectomy versus electrocoagulation after the urine has been diverted. Invasion of plane of cleavage by tumor.





One hundred twenty-three of this group of 540 cases fell into Case C; 25 per cent of these should have been potentially curable. Only two per cent are alive and free from tumor at the end of the five-year period.

CHART V

Carcinoma of the Bladder



Group C (Jewett) — 23% potentially curable  
123 Cases — 2% Controlled

12% (14 cases) died primarily of infection

53 treated by transurethral resection with temporary improvement in 69% (35 cases)

Ureterointestinal anastomosis in 3 cases produced excellent palliation. This raises question of its more frequent use + extensive coagulation or irradiation or both in selected cases to raise percentage of controlled cases.

In summary then, the surgical treatment of carcinoma of the bladder is as follows:

1. The destruction of the tumor by means of electro-coagulation either through the resectoscope transurethrally or through an open cystostomy.

2. The removal of the tumor by open surgical procedure, such as partial cystectomy or total cystectomy with diversion of the urinary stream. Any operation, either partial cystectomy, total cystectomy or open resection and electro-coagulation should include the removal of the regional lymph nodes.

3. Palliative treatment in those patients where the tumor itself cannot be removed, for the comfort of the patient. This includes transurethral resection or deep x-ray therapy or diversion of the urinary stream into the bowel.

TABLE I

Emphasis must be placed on:

1. The avoidance of urinary infection:
  - a. Antibiotics
  - b. Diversion of urinary stream
2. The question of destruction of tumor tissue in plane of cleavage around the bladder:
  - a. Removal of portion of rectum
  - b. Coagulation with high frequency current —  
Diversion of urinary stream
  - c. Irradiation

Moreover, with regard to cancer of the bladder, the following points should be emphasized:

(a) Early diagnosis is imperative and in any patient over the age of 20, any disturbance of micturition indicates cystoscopic examination to rule out carcinoma of the bladder.

TABLE II

The Surgical Treatment of Carcinoma of the Bladder

I *Destruction of the Tumor by Electrocoagulation:*

- a. Transurethrally
- b. Through a suprapubic cystostomy

II *Removal of the Tumor by Surgical Procedures:*

- a. Partial cystectomy
- b. Total cystectomy and prostate-seminal vesiculotomy
  1. With uretero-intestinal anastomosis
  2. With cutaneous ureterostomy

III *Diversion of the Urine Followed by Destruction of the Tumor by Electro-coagulation, or irradiation, or both.*

IV *Palliative Treatment:*

- a. Ureteral transplantation into bowel
- b. Suprapubic cystostomy to skin
- c. Transurethral electrocoagulation

(b) Transurethral resection with electro-coagulation of the base and open electro-coagulation of carcinoma of the bladder has a very definite place in the treatment of this lesion. With earlier diagnosis, the vast majority of patients will fall into groups amenable to this type of surgical therapy which avoids manipulation of the tumor, and affords radical destruction of the tumor. By controlling infection either by diverting the urinary stream or intensive antibiotic therapy or both, these methods should yield much better results than have been afforded in the past. In selected cases, radical removal of lymph nodes and lymphatics with total cystectomy and ureteral intestinal anastomosis, is indicated. Palliative treatment consists of ureteral transplantation or transurethral electro-coagulation.

The improvement in the results of ureteral intestinal anastomosis and in the treatment of infection with antibiotics has radically changed the treatment of carcinoma of the bladder in the last three years, making possible more radical destruction of these tumors with great improvement in the results of treatment.

# The Present Status of Radiology in the Diagnosis of Curable Cancer

L. H. Garland, M.D.

San Francisco, California

By curable cancer is meant in general cancer still sufficiently localized to be curable by ordinary surgical or radiological methods, or by combinations of these methods. For practical, clinical purposes, cancer may be subdivided into two main groups, depending on whether it is readily accessible or is inaccessible to ordinary clinical examination.

*The accessible cancers* are essentially those in five main sites:

- skin
- lip and oral cavity
- breast
- cervix
- rectum and recto-sigmoid

These are, par excellence, the lesions that can be suspected by the patient fairly early, detected by simple physical examination and cured by prompt, radical treatment. What is the place of radiology in their diagnosis or preliminary care?

In lesions of the skin and early lesions of the lip and oral cavity, it is almost nil. In more advanced oral lesions, especially those of the alveolar ridges, roentgen examination of the maxilla or mandible (for evidence of invasion) and of the lungs (for metastasis) is advisable.

In patients with *breast* lumps, pre-biopsy x-ray examination of the *lungs* and common *bone sites* is strongly advisable. A simple routine of four 14 x 17 films will suffice for most cases: P. A. and lateral chest films with slightly heavy exposure; A. P. and lateral lumbosacral spine films. The yield on bone surveys of other sites (skull and long bones) is so small that it is not economic. The pelvis and hips will usually be adequately visible in the 14 x 17 A. P. lumbosacral film. Needless to say, stereoscopic projections, plus additional studies in the presence of suspected areas in the preliminary films will be advisable in some instances. Repeat x-rays after bowel cleansing may be essential in a few cases. The presence of definite metastatic foci contraindicates radical surgery (Haagensen et al). It is suggested that additional radiological consultation is desirable in questionable cases.

In suspected or definite *cervix carcinoma*, some clinicians request roentgen examination of the urinary tract for evidence of ureteral involvement; the pelvic bones and lumbar spine are visible in these films, permitting detection of bone lesions. How-

ever, Heyman and other experienced observers regard the yield as too low to warrant continuation of routine urographic procedures. Indeed, Heyman points out that even though you find evidence of, say, ureteral involvement on one side, you still proceed with roentgen and radium therapy in regular fashion. It is therefore my own practice not to require preliminary urographic examination in cervix cases. Pre-treatment chest x-ray examination is advisable unless the patient has had such in the last year or so.

In most *rectal and rectosigmoid carcinoma*, the lesion is within reach of the examining finger or proctoscope. Indeed, 75 per cent of all cases of cancer of the large bowel are so situated. The incidence of early pulmonary metastasis is low. Should preliminary studies be made? Preoperative chest roentgenograms are probably sound insurance against silent intra-thoracic disease. This would be my own limit. However, some proctologists believe that barium enema studies are worthwhile, since a small percentage of patients with rectal carcinoma also have a second or even third lesion elsewhere in the

P. A. CHEST	LAT. CHEST
A. P. LUMBOSACRAL	LAT. LUMBOSACRAL

Figure 1. Basic roentgen, survey which should be made before operation on or irradiation of breast tumors.



colon. It is certainly agreed that the finding of rectal or rectosigmoid polyps calls for careful single and double contrast x-ray examination of the large bowel.

So much for the accessible cancers... which constitute about 55 per cent of all cancers, and which are curable in most cases by suitable radical treatment, surgical or radiological.

*The inaccessible cancers* are commonly those of the stomach, intestines, prostate, lung, and other viscera (see Table I).

TABLE I

*Incidence of Cancer by Sites (5 most common)*  
(M. L. Levin, N. Y. State. 1944.) *Per 100,000 population*

<i>Both Sexes</i>		<i>Males</i>		<i>Females</i>	
Breast	30	Skin	29	Breast	60
Skin	25	Stomach	27	Cervix	30
Stomach	22	Prostate	23	Intestines	24
Intestines	22	Intestines	20	Skin	20
Cervix	15	Lung	15	Stomach	18

In most of these sites roentgen examination is important for early diagnosis. However, as Newell has pointed out, while the value of human life is infinite, funds and time are finite. Can we outline a basic program of reasonable diagnostic radiological procedures for suspected inaccessible cancer? A program which will be practical, irrespective of the apparent source of funds, governmental or private?

*Stomach.* The incidence of gastric cancer is about 22 per 100,000 population at large. It increases to one per 1,000 in persons over 40 (about one per 700 males and one per 1,200 females). It seems obvious that this incidence is too low to warrant mass detection efforts in unselected groups. If one could select males over the age of 45, who had chemical or other evidence of achlorhydria, perhaps a survey would be worthwhile. However, it is to be recollected that not all persons with silent tumors are willing to part with their stomachs. We are told that in a current gastric roentgen survey of 9,000 asymptomatic males over 50, about seven cases with gastric lesions suspected of malignancy were detected. Only one of these consented to operation: he had a neoplasm, but reportedly developed a fatal pulmonary embolism on the third postoperative day.

Knowing how difficult it sometimes is to detect gastric cancer with the best of fluoroscopic and roentgenographic technique, it is evident that survey methods have considerable limitations. We will therefore confine our further remarks to basic radiological methods in clinical practice. You have a patient, probably over 45, with some symptoms pointing to the upper alimentary tract. What should be done? Careful fluoroscopic examination, spot films for mucosal detail and conventional films for contour and peristaltic records: polygrams in ques-

tionable mural lesions: recheck, within two to four weeks, of all small ulcerating lesions or questionable polyps. This upper or partial gastrointestinal study is feasible, economic and useful in the detection of many curable gastric lesions.

We assume that the fluoroscopist always studies the esophagus carefully, as part of his gastric examination: that the lungs and mediastinum are screened, and that the other abdominal viscera are scanned in the conventional films.

*Intestines.* Small bowel lesions are comparatively rare and will not be dealt with here (see Hodes excellent summary in J.A.M.A.).\* Large bowel lesions require barium enema studies, (with added double contrast examination in about 10 per cent of cases). Proper preliminary cleansing of the colon is the key to success. Castor oil, one or two ounces on the preceding afternoon: light supper: no breakfast: cleansing enema if oil catharsis is not complete. Recheck questionable annular filling defects, polyps and ulcers within four weeks.

*Prostate.* When the examining finger or the history leads to suspicion, make roentgen examination of the lungs and central skeleton as recommended for breast lesions. When bone involvement is present, osteoblastic lesions predominate. However, in bone roentgen studies it must be recollected that extensive invasion may be necessary before roentgen evidence is detectable. Snure showed that 60 per cent of the cancellous tissue of a vertebral body had to be decalcified before a central osteolytic metastasis could be readily seen: much less of the cortex needs to be destroyed to permit detection. Similarly, lung metastases must, as a rule, be three mm. or more in size to be found.

*Lung.* The incidence of primary lung cancer is reported to be about 16 per 100,000 adults. In males over 45 it is said to be higher. Early detection requires suspicion plus careful roentgen examination. A brassy cough, an occasional tinge of blood call for *not* a survey PA film, *but proper x-ray examination*. No clinician worth his salt would be satisfied with a plain film of the abdomen for the detection of gastric or urinary tract tumors; why try to rely on a single film for the respiratory tract? Fluoroscopy; inspiration and expiration P.A. film; inspiration lateral and oblique films should be the minimum. Supplementary spot films, tomograms, or contrast bronchial studies may be indicated. Sputum and aspiration cell studies, segmental excision and frozen section may be needed to identify the nature of the roentgen shadow.

*Other Viscera.* The urinary tract (especially the kidneys), the adrenals, the central nervous system

\*J. A. M. A. 141, 1284, 1949 (Dec.)

and the osseous system are all fruitful sites for suitable, planned roentgen examination. Time does not now permit their detailed consideration.

*Follow Up.* Just as early detection of the primary is essential for cure, so is early detection of recurrence or metastasis often essential for prolongation of comfortable life. Some cancers tend to be multiple, notably those of the skin, intestines and ovaries. Periodic recheck of the intestinal tract may yield a second curable lesion and a grateful patient. By and large, periodic bone surveys in the absence of symptoms are not economic. Conversely, symptoms of bone metastasis often deserve treatment prior to their demonstrability. The question of lung surveys is less difficult. A survey film at annual intervals

may sometimes yield a solitary curable metastasis. However, I must admit I do not insist upon it, except in patients with intrathoracic lesions (e. g. pulmonary tumors, mediastinal lymphoma, etc.).

*Summary.* The present day place of radiology in the diagnosis of the common types of cancer is reviewed.

Its usefulness is definitely less than that of ordinary physical examination in cancer of the accessible sites. These are the most frequently curable cancers today.

Conversely, its usefulness is great in the inaccessible growths, notably those of the alimentary, respiratory and genitourinary tracts.





## Progress in the Treatment of Cancer

Alton Ochsner, M.D.

New Orleans, Louisiana

I would like to give you a resume of what has been accomplished and what is being accomplished by the American Cancer Society and its activities. I need not remind this audience that cancer is a curable disease. It is just as curable as many other conditions that we have to treat. As a matter of fact, it is more than that. Cancer is preventable.

You here in Kansas, I think, have done one of the best pieces of work that I know, in emphasizing the importance of every doctor's office being a detection clinic. The experiences of the detection clinics throughout the country, and I am sure it is true here in Kansas in your own offices, have been that of the well people with no symptoms at all, approximately one and a half per cent have an unsuspected cancer. That is an important group even though the percentage is low. Almost without exception, these patients have a cancer which is amenable to curative treatment.

However, there is another group which, I believe, is even more important. This is comprised of approximately 15 per cent of individuals in whom a precancerous condition is found. This in itself is of no significance, but if allowed to go on might develop into cancer. The patients in this group, 10 times the number of the actual cancers, if treated correctly can be prevented from having a cancer. The American Cancer Society, in emphasizing the importance of early detection and repeated examinations, is emphasizing a program of prophylaxis which is the desideratum.

Dr. Longmire this morning, in talking of cancer of the stomach, made a plea for earlier diagnoses in the treatment of cancer of the stomach. There is no question that if we are going to improve the results in the treatment of cancer generally, we must get cases earlier. Most cancers can be cured if they are detected early and the proper therapy instituted at a time when the condition is still localized. It is a big fight which we, as an organization, must wage; and the fight is far from won. Conviction of the public that cancer is curable is essential, and in this you women are doing more than anyone else. Physicians cannot do anything unless the people consult them.

There has been, as you know, in the past few years a movement to get the American Cancer Society to participate in a federated fund raising program. It would be fine, I suppose, from a theoretical stand-

point, if all of us could donate once a year to all of these projects. However, we, of the Cancer Society, are convinced that it would be detrimental for the Society to participate in such a program for two reasons. First, because during our campaign in April, more is accomplished as regards education than in any other way. If we were to become a part of a federated fund raising campaign the educational value of the cancer campaign would be entirely lost. It is a common observation that during and immediately following the April campaign for funds, more persons consult their physicians for examination than at any other time. Also, if we became a part of federated fund raising, much less money would be raised for cancer because people will give to cancer when they will not give to anything else, and justifiably so.

Although cancer is second to cardiovascular disease as the cause of death, it is more important because it is more amenable to treatment. Far be it from me to decry the importance of cardiovascular disease because I am getting into that age when cardiovascular disease is of importance, but it is largely the result of a wearing out process and we are limited in our efforts to prevent and control it. Cancer, on the other hand, strikes us when we are at the height of our productivity and it is the one principal killer which we are best able to prevent and cure. It is for this reason that the American public is particularly interested in cancer. It is the one killer that we can and must stamp out.

What has been accomplished up to the present time? In surgery, the specialty with which I am most familiar, we are accomplishing a great deal more than we ever did before. We are able to do surgical procedures that we did not dream of before. It is possible now, by the proper preparation of the extremely ill cancer patient, such as the correction of blood volume deficiency which so many of these patients have, to perform operations of magnitudes which were impossible five or 10 years ago. By means of modern anesthesia, operations of almost any length can be performed perfectly safely.

The postoperative care of these patients also is extremely important. This is so important that in our institution we have established a postoperative recovery division to which every patient goes in the immediate postoperative period. We consider the immediate postoperative period one of the most im-

portant phases of the patient's hospital stay. There is no one of us who think of calling the nurses' registry and asking that a special nurse be sent to the operating room to assist in the performance of a complicated operative procedure. Instead we insist upon having a nurse who is not only especially trained in surgical techniques but one who is also particularly familiar with our whims, desires and idiosyncracies. And yet, it is customary to call the nurses' registry for a nurse to take care of the patient in the postoperative period. As far as the patient is concerned, an especially trained nurse in the postoperative period is far more important than such a nurse during the operation because if anything happens during the course of the operation, the surgeon and his assistants are present to take care of any eventuality. On the other hand, after the patient has been operated upon and returned to his room, he is placed under the care of a nurse who may never have cared for such a case and therefore may not recognize early manifestations of a postoperative complication which may mean the difference between life and death of the individual. If ever specialized care is necessary, it is in the immediate postoperative period. I believe the time is coming when every hospital will have a recovery division which will not only be equipped with every resuscitative measure but will also have the trained personnel. In the immediate postoperative period we do not need special nursing, but we need specialized nursing.

In addition to the surgical advances which have been made, a great deal has been accomplished by means of irradiation. You have heard a great deal about the million volt x-ray machines which now are available, but as yet insufficient data are available to evaluate the results obtained from their use. You have heard a great deal about the so-called "atomic cocktail." Unfortunately, there are not many cases in which the radioactive isotopes are of therapeutic value, because of the lack of selective absorption by various tissues of radioactive substances. Cancer of the thyroid is the one type of cancer which may be amenable to radioactive isotope therapy. Thyroid cancer which is actively functioning can be treated satisfactorily with radioactive iodine because the thyroid absorbs iodine selectively. Unfortunately, however, too frequently the cancerous portion of the thyroid does not function as thyroid and therefore does not absorb the radioactive iodine.

The greatest use for radioactive isotopes is the study of cancer and normal growth processes. A great deal is being accomplished at present under the research program of the American Cancer Society by the use of the radioactive isotopes. I believe the time will come when we will know enough about the growth of cancer cells generally to be able

to accomplish the same thing in the treatment of cancer as has been done in the treatment of infection.

As many of you know, antibiotics and chemotherapeutic agents are effective against infections because they interfere with the growth of bacteria. The sulfonamides do not kill bacteria but they simply interfere with the nutrition of bacteria so that the normal resistance of the body can overcome them. It is likely that the ultimate cure of disseminated cancer will be accomplished in the same way. We must determine what are the essential elements necessary for the growth of the abnormal cells and then it probably will be relatively simple to use a substance or substances which will interfere with the utilization of these essential elements by cancer cells.

In order to accomplish this it is necessary to understand the fundamental biologic processes necessary for cell growth. In order to put the research program on a sound scientific basis, the American Cancer Society when it set up its research program turned to the National Research Council, which is the branch of the federal government which is concerned with scientific investigation, and asked it to set up an organization to evaluate the various research projects. As most of you know, the National Research Council established the Committee on Growth, not the Committee on New Growth or not the Committee on Cancer but the Committee on Growth. It is logical that before we know what is the cause and the reason for the growth of abnormal cells we must understand the reason for the growth of normal cells. In order to carry on the research program, 25 per cent of all the funds collected by the American Cancer Society is allocated to research. The applications for funds for research are screened and evaluated by the Committee on Growth of the National Research Council and in this way you can be assured that your money, the money which you are collecting in the name of the American Cancer Society, is being used wisely in helping solve the cause of cancer.

In addition to the results which are being obtained by surgery and irradiation much has been accomplished within recent years by other methods. We heard this morning about the results obtained by the use of hormones. It does not take a great deal of imagination to envisage in the relatively near future that a great deal more can be accomplished by the use of these substances. By the use of the male or female hormones, palliation and at times almost a cure can be obtained. We heard today about patients with cancer of the prostate treated by hormones for as long as 10 years without any evidence of recurrence. This is one type of cancer which



is particularly amenable to the use of hormones.

With the introduction of the research program of the American Cancer Society there have been developed a large number of chemical agents which exert anti-carcinogenic effects. These are being used extensively and intensively in the research program. Unfortunately, at the present time none of them apparently are curative, but it is astounding what can be accomplished in a palliative way. For instance acute leukemia, which previously was a uniformly fatal disease within a very short period of time, now has responded, at least in a palliative way, to some anti-folic acid substances. There are a myriad of these substances being introduced.

How long it will be before we know enough about the biologic processes to be able to interrupt the process at the particular point where normal cell growth transforms into abnormal growth, one cannot say. But it is not going to be a simple process. We know what it took to develop the atomic bomb, but this was comparatively simple. Although it required a great deal of money, manpower and time, the physicists were able to predict its completion according to mathematical formulas. On the other hand finding the cause and cure of cancer will not be simple because we are dealing with a biologic process which is much more difficult and less pre-

dictable since the living cell does not always react according to a mathematical formula. But that does not mean that it cannot be accomplished. It may require 10 years, 15 years, or even 50 years, but it is a goal worth fighting for, and I hope the time will come when we in the American Cancer Society will collect not the 13½ million that we did last year but many times that figure in order that we will have millions of dollars available for research because it is only through research that we are going to conquer cancer.

The American Cancer Society has been very wise, it seems to me, that instead of using its funds for the care of patients, its activities have consisted almost entirely of education and research. It would be entirely impossible for us to collect enough money to care for all the cancer patients. The American Cancer Society is spending its money on a continued educational program for both the laity and the professionals, and for research; and it is through these two methods that we are going to do the most to stop this scourge. Education is a very important part of our program because unless patients are aware of the importance of cancer and unless they go to their physicians for examination their early cancer cannot be detected nor can it be treated. The other attack, research, is a slower and more laborious one but ultimately offers the real solution.



# Malignant Lesions of the Small Intestine

W. P. Longmire, Jr., M.D.\* and  
Robert M. Adams, M.D.

Los Angeles, California

The rare occurrence of malignant lesions in the small intestine in relation to other segments of the alimentary tract, when the small intestine comprises over two-thirds of the length of the alimentary system, is an excellent example of the capricious behavior of cancer. No satisfactory theory has been advanced to explain the rarity of neoplasms in this segment of the intestine. Neoplasms arising in "fetal rests" should certainly be as frequent in the small intestine as in other areas.

The wide range of pH values of the intestinal contents which bathe the mucosa of the duodenum, where acid gastric secretions, alkaline bile and pancreatic juice merge, might be expected to produce a certain amount of chemical trauma of this area. Yet the pylorus remains a distinct boundary between the relatively frequent carcinoma of the gastric antrum and the rare primary duodenal neoplasm.

The absence of abrupt change in the character of the mucosa has been suggested as a factor in the low incidence of small intestinal neoplasms, but such changes are not found in the stomach or colon near the site of predilection of carcinoma of these organs. The uniform fluid character of the small intestinal contents would hardly seem adequate to explain the difference in the incidence of carcinoma here and elsewhere in the alimentary tract.

Despite any adequate explanation, malignant neoplasms of the small intestine comprise only 4.9 per cent of all malignant tumors of the gastrointestinal tract.<sup>1</sup>

In the past, these lesions usually have been found unexpectedly at operation or at autopsy. The correct preoperative or antemortem diagnosis has infrequently been made. The difficulties in diagnosing the condition correctly are two: (1) The symptoms are usually vague and indefinite. When extensive local spread or distant metastases occur, the diagnosis may be confused by symptoms arising in other organs. (2) The condition is either purposely or inadvertently overlooked because of its rarity.

With the increasing awareness of both the general public and the members of the medical pro-

fession of the signs and symptoms of early carcinoma and the more frequent use of exploratory laparotomy (since the gradual development of safer procedures in this method), it would seem that the lesion will be encountered by the surgeon more frequently. This discussion is presented to encourage the consideration of the lesion in the differential diagnosis of obscure gastro-intestinal symptoms.

## Pathology

Malignant lesions of the small intestine are usually of one of three varieties: (1) adenocarcinoma, (2) sarcoma, or (3) carcinoid.

In most of the reported series adenocarcinoma has been the most frequently encountered malignant lesion of the small intestine. In a series of cases recently analyzed by Adams and Lloyd<sup>2</sup> from the Wadsworth General Hospital, Los Angeles, adenocarcinoma was found six times as frequently as sarcoma. Maxwell, Crile and Dinsmore<sup>3</sup> reported that, in the cases seen at the Cleveland Clinic, there were 21 carcinomas, 14 sarcomas, and six carcinoid tumors. All series agree that in the duodenum, carcinoma is the most frequently encountered lesion, and it is usually the most common lesion of the jejunum. Sarcomas of the ileum have outnumbered carcinomas in some series.

Sarcomas are usually either lymphosarcomas or leiomyosarcomas. The lymphosarcomas occur most frequently in the terminal ileum. There were three sarcomas in the series of Adams and Lloyd,<sup>2</sup> all arising in the jejunum. Two were lymphoid in type; one was a leiomyosarcoma. Maxwell et al.,<sup>3</sup> state that sarcomas of the small intestine tend to grow outward from the serosa; therefore, stenosis of the lumen is a rare and late complication. Symptoms of obstruction may occur from pressure of the mass or kinking of the bowel.

Carcinoid tumors are differentiated from the other lesions of the small intestine by their characteristic histological appearance and the black granules in the cell cytoplasm when stained with ammoniacal silver salts. The neoplasm is thought to arise from the Kulschitzky cells in the crypts of Lieberkuehn and is found most commonly in the appendix. Appendiceal carcinoids are rarely malignant. Those in the small intestine, however, frequently exhibit malignant characteristics.

In a recent review of carcinoid tumors of the small intestine, Grimes and Bell<sup>4</sup> found that these

\*From the Medical Service, Wadsworth Hospital, Veterans Administration Center and the Department of Medicine, University of California, Los Angeles, California.

Reviewed by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions of the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.



tumors most frequently occur in the terminal ileum. Their predominant spread is regional, but wide-spread abdominal or distant metastases may occur.

These authors believe the appendiceal lesions produce symptoms early and are usually discovered before malignant spread has occurred. The lesions in the small intestine, on the other hand, are discovered late in their course and local spread or distant metastasis frequently occurs.

#### **Incidence**

The average age of the patients in the Wadsworth series was 53. The youngest was 39 and the oldest 73. This agrees quite well with the average age of 52.6 reported by C. W. Mayo<sup>5</sup> on a series of 108 malignant tumors of the small intestine. He noted that lymphosarcoma occurred more frequently in the third and fourth decades, and carcinoma, in the fourth and fifth decades.

The jejunum is the most frequent site of these malignant lesions. Adams and Lloyd<sup>2</sup> report seven duodenal lesions, eleven jejunal lesions, and four ileal lesions.

Primary carcinomas of the ampulla of Vater are not included in this discussion.

#### **Family History**

Adams and Lloyd<sup>2</sup> found a family history of carcinoma in 10 of their 22 cases and a family history of gastric carcinoma in six, or 27 per cent. The mother and sister of one patient in their series died of gastric carcinoma. This percentage even in this small series of cases is impressive. It would suggest that, in a region as "resistant" to the development of carcinoma as the small intestine, the "familial factor" may be more important than in other more commonly occurring neoplasms. This point should be stressed when taking the history of the patient with vague abdominal symptoms, and it may be an aid in the diagnosis.

#### **Symptoms**

The wide variations in the site of these lesions and in their mechanism of interfering with normal physiology produce a variety of symptoms. The complaints are usually localized in the gastro-intestinal tract. However, distant metastases may at times produce more dominant symptoms than the initial lesion. For instance, in one case from the Wadsworth Hospital series the only symptoms were those related to cerebral metastasis.

Loss of weight has been the most consistent finding in various series of cases. Weinberger and Paltauf<sup>6</sup> reported weight loss in 11 of 13 patients. In Adams' and Lloyd's series of cases<sup>2</sup> the average weight loss was 30 pounds. One patient had lost 60 pounds in weight. They remark that the degree

of weight loss is out of proportion to the degree of intestinal obstruction observed. McDougal<sup>7</sup> and Mayo<sup>5</sup> have suggested faulty absorption from the intestinal tract as being a factor in the weight loss, in addition to the mechanical abnormalities produced by the tumor. Marked loss of weight does not necessarily indicate wide-spread carcinomatosis.

Abdominal pain or discomfort is usually reported to occur in about three-fourths of the patients. In the earlier lesions the pain is not severe but is described as a vague recurring discomfort most frequently located in the epigastrium.

Signs of acute obstruction, such as severe colicky pains, vomiting and distension may at times be mistaken for the initial symptoms of the disease. Careful questioning in such cases, however, will frequently reveal previous symptoms of mild abdominal discomfort and weight loss of several months' duration, which have been overlooked in the face of the severe symptoms of the acute attack.

Various authors have mentioned aggravation of the abdominal discomfort after eating, followed by relief after vomiting or gradual recession of the pain and recurrence with the next meal. The pain associated with lesions in the duodenum may be relieved by alkalies. Nausea and vomiting occur in about one-third of the cases. Hematemesis, diarrhea, or the presence of an abdominal mass may be included in the patient's complaints.

Doub and Jones<sup>8</sup> have attempted to classify duodenal lesions according to their position. If the lesion is located proximal to the ampulla of Vater, the symptoms are those of pyloric obstruction. These lesions occurring in the region of the ampulla produce jaundice, and lesions distal to the ampullary region result in obstruction accompanied by bile vomitus. Dixon<sup>9</sup> and his associates believe the prognosis is more favorable in lesions in the duodenum than elsewhere in the small intestine, as symptoms are produced earlier in the course of the disease. In Maxwell's<sup>3</sup> series the average time before the patient submitted to operation was two months for duodenal carcinoma, eight months for jejunal carcinoma, and 12 months for carcinoma of the ileum.

#### **Physical Examination**

Positive findings upon physical examination are variable. Evidence of weight loss is frequently observed. An abdominal tumor mass is palpable in about 15 per cent of the cases, and the mucous membranes may be pale if anemia is marked. The abnormal physical findings in all but the advanced cases are frequently insignificant. The history of the patient's illness is usually of greater aid than any other part of the examination in establishing the correct diagnosis.

### Laboratory Examinations

An anemia was found in all of the cases reported by Adams and Lloyd.<sup>2</sup> In 43 per cent the anemia was of moderate degree, the red cell count being approximately four million, and the hemoglobin about 80 per cent. In 29 per cent, the red cell count was between three and four million and the hemoglobin varied from 55 to 89 per cent. Severe anemia was present in three cases. The average red blood cell count in their series was 3,600,000, and the average hemoglobin value was 68 per cent. Cases in which the anemia had been treated with iron, liver or folic acid prior to the establishment of the correct diagnosis had failed to respond. In four of their cases, tarry stools were reported, and in three others, occult blood was found in the stools.

Roentgenographic study of the small intestine for the diagnosis of malignant lesions has been unsatisfactory. Thin barium administered orally in small amounts in serial fluoroscopic or roentgenographic studies may demonstrate a constant defect. Maxwell,<sup>3</sup> et al., consider that one-half of the cases can be diagnosed with careful roentgenographic technique. However, in the various series of cases reported in the past, roentgenography has been of limited value.

Schatzki<sup>10</sup> recommends the introduction of a nasal tube into the duodenum and the continuous injection of a thin barium mixture as a special technique to demonstrate lesions of the small intestine. Golden<sup>11</sup> has pointed out that the defect in the lumen of the bowel produced by a neoplasm is usually short, four to six centimeters in length, while that produced by an inflammatory process usually involves a much longer segment of the intestine.

### Differential Diagnosis

In the report of Maxwell, Crile and Dinsmore,<sup>3</sup> the erroneous clinical diagnoses included intestinal obstruction, duodenal ulcer, diverticulitis, pancreatitis, salpingitis and carcinoma of the stomach, pancreas and rectosigmoid.

### Treatment

Resection of the involved segment of intestine and of a wedge of mesentery is the preferred treatment. Grimes and Bell<sup>4</sup> recommend this type of resection for carcinoid neoplasms when distant metastases are known to be present. If the tumor is fixed by local invasion or if widespread distant metastases are present, some type of anastomosis to by-pass the obstruction may be indicated, such as a gastro-enterostomy or entero-enterostomy. Unfortunately, the chief lymph node barrier for lesions of the small intestine, with the exception of the terminal ileum, lies at the root of the mesentery. Metastases to these nodes intimately involve the main trunk of the

superior mesenteric vessels and preclude resection. The small intestine lacks the well developed secondary chain of lymph nodes found in the periphery of the large bowel mesentery.

Postoperative irradiation may be indicated in cases of lymphosarcoma. It is of no value in cases of carcinoma or carcinoid.

### Results

Primarily because of late diagnosis, the results of the treatment of malignant lesions of the small intestine have been poor. The prognosis of the carcinoid tumors is the most favorable. Grimes and Bell<sup>4</sup> report an average survival time of 8.5 years following wide resection of tumors of this type and associated mesentery.

The operative mortality has varied from 60 per cent to 10 per cent. Attempts to remove large tumors which have local spread of the neoplasm into adjacent organs have been responsible, in many instances, for the high mortality rate.

In the cases of Adams and Lloyd, 16 patients were operated upon. In 11, a curative resection was attempted; in five cases various types of palliative procedures were performed. In the 11 cases submitted to curative resection, there was one postoperative death. Of the 10 patients who survived the immediate postoperative period, three subsequently died of recurrence in from eight to 18 months. Seven patients have survived from four months to eight years. One of these patients now has evidence of recurrence.

### Conclusions

Malignant tumors of the small intestine are rare. They produce an extremely variable symptomatology. It is frequently late in the course of the disease before a definite diagnosis is made. Treatment is surgical excision, although in the past the operative mortality has been high and the percentage of patients surviving operation five years has been less than 10 per cent.

Earlier diagnosis is, of course, the only method of improving these results. A middle-aged patient with a familial cancer history, vague abdominal complaints and loss of weight should be carefully studied for evidence of a small intestinal neoplasm. After careful consideration, exploratory laparotomy at times will be indicated where strong suspicion of a malignant tumor exists, even though definite evidence of the lesion is lacking.

### Bibliography

1. Raiford, Theodore S., Tumors of the Small Intestine, *Archives of Surgery*, 25: 122, 1932.  
Lymphoblastomas of the Gastro-intestinal Tract, *Archives of Surgery*, 26: 813, 1933.
2. Adams, Robert M.; Lloyd O. D., To be published.
3. Maxwell, E. A.; Crile, George, Jr.; Dinsmore, Robert S.,



Malignant Tumors of the Small Intestine, *Surgical Clinics of North America*; p. 1149; October, 1948, Pt. 5.

4. Grimes, Orville F.; Bell, H. Glenn, Carcinoid Tumors of the Intestine, *Surgery, Gynecology and Obstetrics*, 88: 317, 1949.

5. Mayo, C. W., Malignancy of the Small Intestine, *Western Journal of Surgery, Gynecology and Obstetrics*, 48: 403-407, 1940.

6. Weinberger, Howard A.; Paltauf, Rudolf M., Tumors of the Small Intestine, *Surgery*, 24: 35, 1948.

7. McDougal, William J., Carcinoma of the Small Intestine, *American Journal of Surgery*, 66: 119-122, 1944.

8. Doub, H. P.; Jones, H. C., Primary Malignant Tumors of the Small Intestines, *Radiology*, 26: 209-220, 1936.

9. Dixon, Claude F.; Lichtman, A. L.; Weber, Harry M.; McDonald, John R., Malignant Lesions of the Duodenum, *Surgery, Gynecology and Obstetrics*, 83: 83, 1946.

10. Scharzki, R.; Hale, C. H., Small Intestinal Enema, *American Journal of Roentgenology*, 50: 743-751, December, 1943.

11. Golden, Ross, Radiologic Examination of the Small Intestine, 1945.



# Radiological End Results in the Control of Cancer

L. H. Garland, M.D.

San Francisco, California

The cure of cancer is not difficult, if the lesion is detected in an early stage and especially if it is accessible. Cure may be achieved by destructive methods of many types, surgical, radiological and otherwise. Surgical and radiological methods are today keenly competitive in the treatment of some small lesions, for example those of the lip, the tongue and the larynx. In the cure of other tumors, surgical and radiological methods are complementary, for example in cancer of the maxillary antrum or the corpus uteri. In perhaps a majority of lesions they are best used to the exclusion of each other; for example, surgery, not radiation, for tumors of the rectosigmoid; radiation therapy, not surgery, for cancer of the cervix.

What are the current end results in cancer control, using radiological methods as the principal or primary weapon? What are the results in the palliation of advanced cancer by irradiation? We shall attempt to answer these questions on the basis of a personal experience of some 23 years in clinical radiation therapy.

## Method of Treatment

The choice of surgery or irradiation as the primary method of treatment depends upon several factors, such as the type and location of the tumor, the condition of the patient, and the availability of a competent specialist. Some physicians and many patients have an understandable feeling that "It is better to cut the tumor out." However, a moment's reflection on the number of local and distant recurrences following the most radical of surgery makes one realize that total excision of many tumors is not possible. Similarly, total destruction by irradiation is not always possible. However, irradiation is preferable in the treatment of certain lesions for the following reasons:

1. Superior cosmetic results. This is especially true in cancer of the skin of the face, about the eyelids, cancer of the lip, etc.

2. Superior functional results. This is true of the tongue, larynx and some other sites.

3. Superior clinical results. This is true in most cases of cancer of the cervix, in Hodgkin's disease, lymphosarcoma, medulloblastoma and a few other tumors.

Having decided on the method of treatment, it is important also to decide whether one's attempt is to cure or merely to palliate. If it is to cure, one must often be just as radical in irradiation therapy as one is in the surgery of cancer. The complications

of adequate irradiation therapy are not negligible; nor are the complications of surgery. However, by vigilance and by judicious dosage, radiation ulcers and necrosis of cartilage or bone can usually be avoided.

The following four tables illustrate our policy on the Stanford University Service at the San Francisco Hospital. This policy has been evolved in cooperation with the surgical and pathological divisions, and represents our general plan. However, in individual cases, circumstances may require departure from this policy, and it is not suggested that it is rigidly followed in 100 per cent of instances.

TABLE I

### *Surgery Usually the Treatment of Choice*

#### Accessible Sites:

1. Breast (Stage I)
2. Metastatic cervical nodes
3. Corpus uteri (Operable)
4. Salivary glands
5. Thyroid

#### Inaccessible Sites: (Tumor Operable)

1. Brain and spinal cord
2. Esophagus and stomach
3. Small intestine
4. Colon and rectum
5. Kidney
6. Bladder
7. Prostate
8. Lung, etc.

TABLE II

### *Radiation A Useful Adjunct to Surgery*

1. Breast (Stage II) postoperative
2. Thyroid, postoperative
3. Uterus, corpus, preoperative
4. Ovary, postoperative
5. Testis, postoperative
6. Bladder
7. Kidney (bulky adenocarcinoma and Wilms' tumor)
8. Miscellaneous tumors, including postoperative recurrence, incomplete removal, etc. (e.g. breast, brain, skin, etc.)

TABLE III

### *Radiation Therapy The Treatment of Choice*

#### Accessible Sites:

1. Skin
2. Lip and mouth, including tongue
3. Breast (Stage III)
4. Cervix uteri
5. Anal and urethral orifices

#### Inaccessible Sites:

1. Embryonal tumors—kidneys, testis, ovary
2. Endotheliomas—Ewing's, etc.
3. Medulloblastoma
4. Cancer of the larynx and nasopharynx—
5. Cancer inoperable, e.g. lung, esophagus, etc.
6. Cancer metastatic, esp. in bone, skin, etc.
7. Lymphoblastoma (Hodgkin's disease and lymphosarcoma) and leukemia.



TABLE IV

*Radiation Therapy Rarely Indicated*

1. Osteogenic sarcoma
2. Miscellaneous "adult" sarcomas
3. Cancer of the intestines
4. Cancer of the gallbladder
5. Cancer of the liver
6. Cancer of the pancreas
7. Advanced cancer with cachexia
8. Acute leukemia
9. Melanoma

**Results Obtainable**

The actual results obtained in a group of patients treated chiefly with radiology will now be considered. The data are usually those of five-year arrests. In some instances they will merely be five-year survivals (that is, some of the patients will have disease). In a few instances they will be 10- and 15-year results. We have a group of 50 patients with cancers in various sites whom we have treated more than 15 years ago and who are still living and well. Patients in this group are used for demonstration at our consultative tumor board meetings and are a source of inspiration to physicians in training, as well as to those skeptical of cure by radiation methods. It has been our personal experience that internists are amongst the most skeptical, perhaps owing to the large proportion of terminal or recurrent cases of cancer which they are called upon to see in their practices.

**Accessible Group**

Most cancers of the skin can be permanently cured by adequate irradiation. This usually means a dose of from 3,000 to 6,000 r, measured in the tumor, delivered in a period of from one to 20 days. Protraction is necessary when the tumor is large, or situated in parts such as the upper lip which are apt to be exposed to irritation or sunlight in years to come.

Squamous cell cancers on the dorsum of the hand or the sole of the foot are rarely treated; the blood supply in these areas is not sufficiently good to warrant vigorous irradiation, and we believe that surgical removal is preferable.

The reasons for failure in some skin tumors include inadequate dosage, inadequate size of field and large tumor. It is important that basal cell and squamous cell lesions be distinguished as far as possible, since the incidence of lymph node metastasis is so much higher in the squamous cell group. We no longer make any significant difference in dosage rate as regards the two types of skin cancer.

**Cancer of the Lip**

We have treated 121 cases of cancer of the lower lip during the last several years. Approximately half of these were Stage I (local tumor less than three cm. diameter). About one-fourth were Stage II (tumor from three to five cm. in diameter without

nodes). The remainder were Stage III or IV. Some of the cases were in elderly or feeble patients who did not complete treatment. Of the 105 cases which completed treatment, 80 per cent are alive and well after five years. There are five known deaths from cancer. One case developed necrosis of the lip eight years after treatment. There were seven recurrences; when these were marginal they were sometimes re-treated, but when they were central, they were treated by excision. Eight of the cases had enlarged lymph nodes on admission and two developed them after treatment. Our policy regarding nodes is to advise suprahyoid dissection when there is a palpable node, but in the absence of palpable nodes just to observe the patient. In our experience, the incidence of metastatic nodes following successful control of the primary is not sufficiently high to warrant routine neck dissection. Further, less than one-third of the patients in which we have seen neck dissection performed and which had proven metastases, were cured by the procedure.

**Cancer of the Tongue**

We have treated 71 patients with cancer of the tongue, largely or exclusively with radiological methods. We used a combination of external roentgen irradiation, followed by intra-oral roentgen irradiation and, in some cases, radium implantation. As in the case of the lip, we attempted to secure a tumor dose of approximately 6,000 r in four weeks time; in some very small and radiosensitive lesions we stopped at 4,500 r in about 18 days time. These doses are estimated tumor doses.

Only 11 of our tongue cases were Stage I (tumor under three cm.). Approximately one-half of the lesions occurred in the anterior two-thirds of the tongue and one-half in the posterior one-third. Sixty cases completed treatment, and 30 of these showed primary arrest. Ten of these recurred within two years. Our five-year cure rate is approximately 20 per cent, and this exclusively for tumors in the anterior two-thirds of the tongue. We have no five-year cures in lesions involving the posterior one-third. Nevertheless, palliation was achieved in many of the latter, rendering the patient's last year or so of life much more tolerable.

It is our impression that with more competent and more vigorous irradiation we ought to reach the five-year cure rate of Paterson, which is 28 per cent. The big problem in tongue cancer is, of course, the high incidence of metastatic nodes. Fifty per cent of our patients already had metastatic nodes on admission, and 15 per cent developed them after treatment of the primary lesion. Many of these nodes are deep, and even though bilateral neck dissection is done, cure is seldom achieved. Perhaps the best results in cancer of the tongue have been obtained



by Jacobson at the Radiumhemmet; 52 per cent of 103 primary cases were cured for five years; 15 per cent of 130 cases with metastatic nodes were alive and apparently well at the end of five years.

When a patient has apparent involvement of a

single node, and refuses surgery, radical irradiation is advisable. We have actually succeeded in apparently controlling such very localized node involvement in a few patients by external roentgen irradiation alone (6,000 r into the node in less than

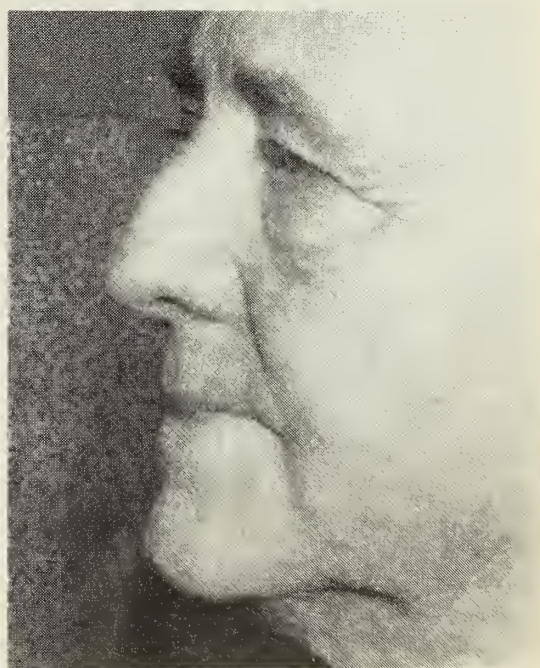
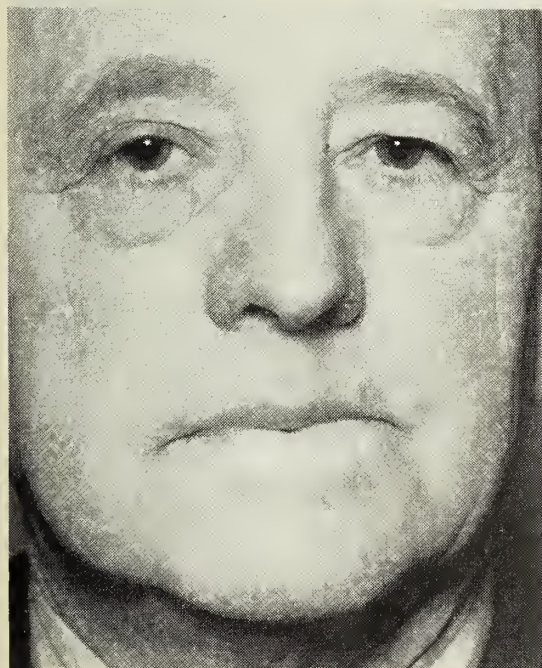
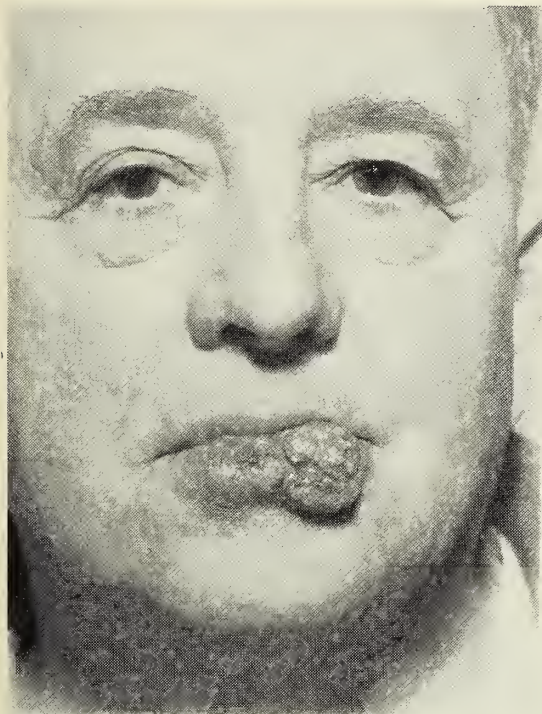


Figure 1. Figure 1A, upper left; Figure 1-B, upper right; Figure 1-C, lower left; Figure 1-D, lower right. Cancer of the lip. Example of cosmetic and functional result obtainable with roentgen irradiation in this site. Biopsy showed squamous cell cancer with muscle invasion. A and B before irradiation. C and D one year after irradiation. Patient well 10 years to date. Tumor dose 5000 r in three weeks. Illustrations show case before treatment and five years after treatment. (Courtesy Am. J. Roent.)



four weeks). Martin of Dallas uses interstitial radium needles of weak strength to supplement his external roentgen therapy and has five-year arrests of 25 per cent of metastatic nodes. This is indeed a very remarkable figure.

#### Cancer of the Cervix

The over-all results obtainable today in properly treated cancer of the cervix average about 40 per cent. That is to say, of 100 women seen with cancer of the cervix, 40 should be alive and well at the end of five years. This relatively high curability is due to the unique nature of cervical tumors plus the fact that their location is almost ideal for radium insertion. Our policy is to give a full course of external roentgen therapy to all cases, Stages I to IV, and follow this by radium therapy. We have a preference for the so-called Stockholm method, that is, divided dosage, with a total of about 7,000 milligram hours of radium for the average case, which delivers a dose of about 5,000 gamma roentgens to a point two cm. lateral to the mid-cervical canal.

The extreme importance of careful biopsy of cervix lesions in order to be sure that the lesion is carcinoma, and of adequate placement of the radium, cannot be overstressed. We believe that pathological consultation by two or three pathologists will become increasingly necessary in this era of cytologic diagnosis. The economic problem facing the housewife with cervical cancer is indeed a large one, but it is not larger than that of the housewife who sustains a serious fracture of the neck of the femur, or who develops an active pulmonary tuberculosis

process. The practising physician will greatly aid his patient by carefully explaining to the husband or family as well as to the patient the need of six to eight weeks of almost continuous treatment. This is indeed a small part of the patient's entire life and if it is devoted to adequate irradiation, will greatly enhance the opportunity of cure.

TABLE I

#### 5-Year Clinical Cures of Certain Accessible Tumors

Site	(Radiation Therapy)		
	No. of Cases	%	
Ca. Skin	1803	88	(Paterson 1946)
Ca. Lip	807	65	(Ebenius 1948)
Ca. Tongue	465	28	(Paterson 1947)
Ca. Cervix	1287	37	(Heyman 1942)

#### Cancer of the Breast

For early operable breast tumors, including tumors with low axillary node involvement, we believe that radical removal is still the treatment of choice. If microscopic examination of the axillary nodes discloses that there is definite tumor involvement, we believe that postoperative irradiation of the axilla and supraclavicular area will give a slight increase in the number of five-year survivals. We doubt if cancer in these nodes is ever fully destroyed by external irradiation; however, we believe that it is "suppressed" in the more radiosensitive types of lesion. Patients with Stage III or inoperable cancer of the breast should be treated by roentgen irradiation alone. Recurrences and metastases may be treated by various methods, depending on the age of the patient and the symptoms produced. By and large, roentgen irradiation is the primary treatment

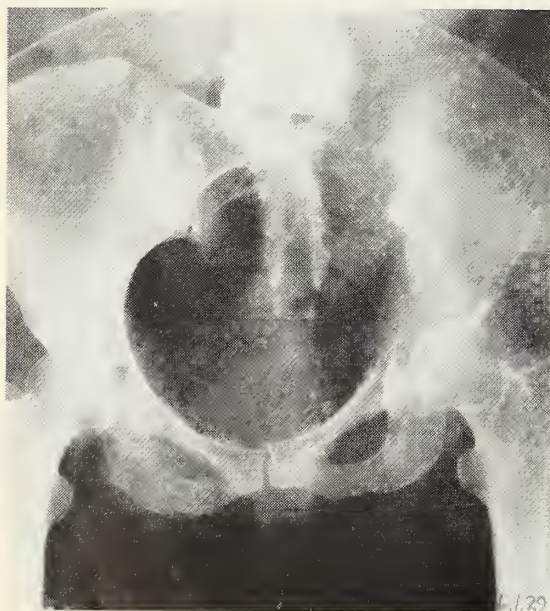


Figure 2-A, left; Figure 2-B, right. Cancer of bones of pelvis meta static from breast. Example of excellent palliation obtainable with irradiation: Female, age 52, with excruciating backache and left sciatic pain; breast removed one year previously for cancer. A before, and B after irradiation. Survived two years and died with liver metastases. Complete relief of symptoms. Tumor dose approximately 900 r in one week.

of choice in bone, skin and lymph node metastases. Radiation is worth using in some pulmonary and cerebral metastatic breast lesions. When metastases involve the liver we do not think radiation is worth using. If and when radiation therapy fails for the first mentioned group of metastases, then the steroidal hormones have a very useful place.

young female, plastic operation on the skin of the neck had to be performed for unsightly telangiectasis and atrophy three years after roentgen therapy. We believe that properly given roentgen irradiation is the treatment of choice for definite carcinoma of the larynx involving a single cord, and for more advanced carcinoma when there is no clinical evi-

TABLE II  
*Ca. Breast. Improvement in Survival with Postoperative Irradiation.*  
All Cases With Histologic Proof of Axillary Metastasis

Author	Year	No. of Cases with Radical Mastectomy Only	% 5-year Survivals	No. of Cases with Radical Mastectomy Plus Post-op. Radiation Therapy	% 5-year Survivals
Harrington	1910-1935	732	24.3	2011	29.4
Haagensen & Stout	1915-1934	154	28.2	143	36.0
Jessop	1923-1932	96	30.5	—	—
Hooper & McGraw	1918-1935	55	21.8	94	31.9
Stenstrom & Baggenstoss	1927-1941	—	—	110	41.0
	Totals	1037	25.2%	2358	30.4%
			30.4 — 25.2 = 5.2%		
			5.2% of 25 = approx. 20% improvement with radiation.		

(from Stenstrom, *Acta Rad.* 1947, 28, 623)

## Inaccessible Tumors

### Cancer of the Larynx

We have treated 75 patients with cancer of the larynx with an over-all salvage rate of 20 per cent. We were fortunate in securing seven early cases for treatment, either because the patient had some complicating ailment such as hypertension or because he refused surgery. All seven cases are alive and well over five years; one of them is alive 15 years and two alive over 12. They have useful voices, their skins are in good shape. In one case, involving a

dence of gross infection. However, for cases of advanced carcinoma of the larynx with obvious infection, and with probable extension into the thyroid or adjacent cartilages, it is probable that radical removal of the entire larynx is the safest and most useful procedure.

### Cancer of the Lung

For inoperable cancer of the lung, properly given roentgen irradiation has much to offer. When the patient has one of the three cardinal symptoms of pain, cough or hemoptysis, a course of irradiation over the involved bronchus and the adjacent nodes will give palliation for periods of six to 24 months in a majority of cases. We have no five-year survivals in squamous cell carcinoma of the lung. It is reported that Paterson has about six per cent five-year survivals; however, it is not known whether these are squamous cell or the more benign adenocarcinomatous lesions.

### Cancer of the Ovary

We have analyzed our results in a series of 79 patients with cancer of the ovary treated by surgical removal of the primary tumor and as much of the metastases as could be removed, followed by one or more courses of roentgen irradiation to the entire abdominal cavity. Only about 15 per cent of the patients survived five year; most of this small group are clinically well at the time of report, but since it is known that ovarian cancers may sometimes recur as long as 15 years after removal, one can never be sure of complete success. We believe that the work of Freed and Pendergrass has shown definite evidence of significant improvement in end results with

DIAGRAMS, SHOWING BEHAVIOUR OF LARYNGEAL LESIONS UNDER ROENTGEN THERAPY.

Case No. 2 Epidermoid Carcinoma, Larynx (well differentiated)



Case No. 3 Epidermoid Carcinoma, Larynx (well differentiated)



Case No. 5 Epidermoid Carcinoma, Larynx (well differentiated)



These are tracings from sketches made by the Laryngologist at time of examination.

Figure 3. Behaviour of laryngeal cancer under roentgen therapy. The top row of diagrams refers to a patient treated in 1933; his laryngeal cancer remained cured for eight years, at which time he died of intercurrent disease. The second row refers to a case of extensive laryngeal cancer, which recurred following temporary control. The third row refers to a case which did well following radiation therapy, but developed some fibrosis. In early laryngeal cancer, the cure rate with roentgen therapy is high; advanced laryngeal cancer, with secondary infection, especially when cartilage is involved is probably best treated by total laryngectomy. (Courtesy, Calif. West. Med.)



the addition of postoperative irradiation in cases of carcinoma of the ovary, except when the tumor is very small and has been entirely removed, together with the contralateral ovary.

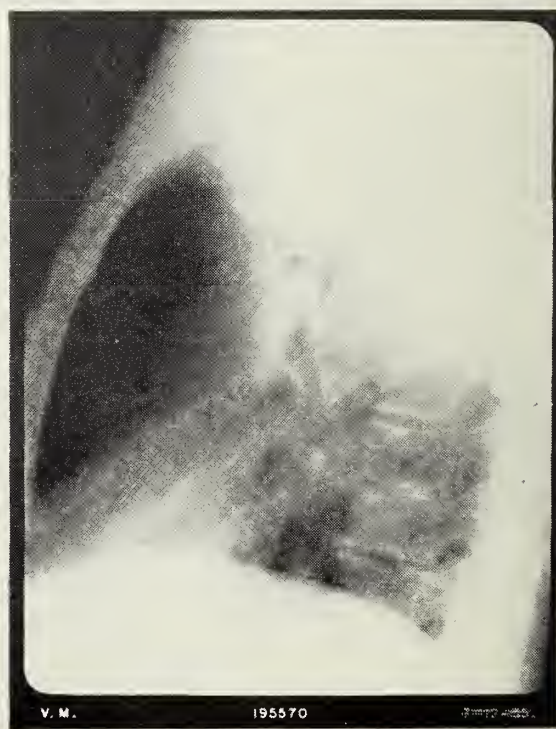
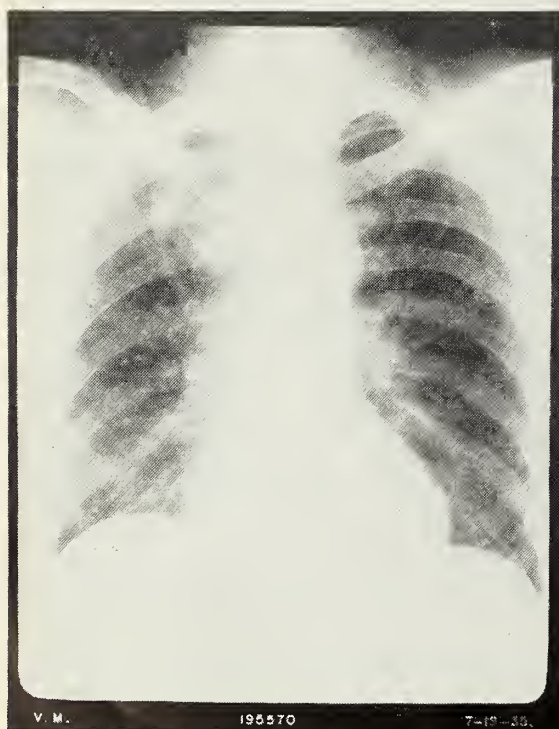
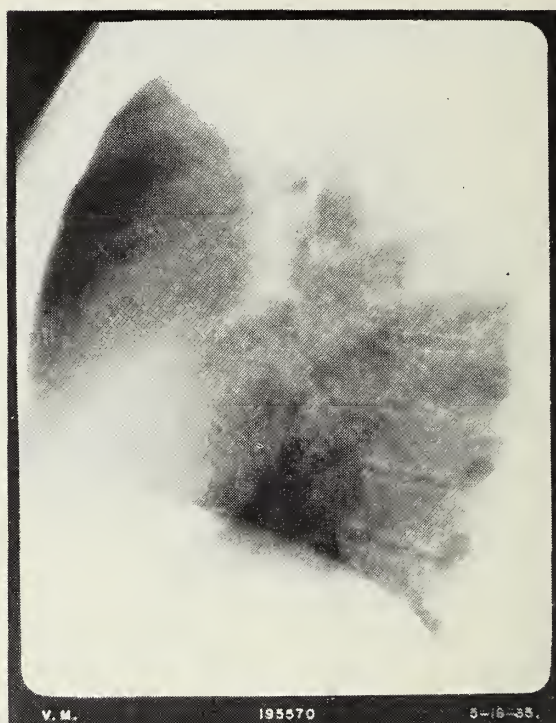
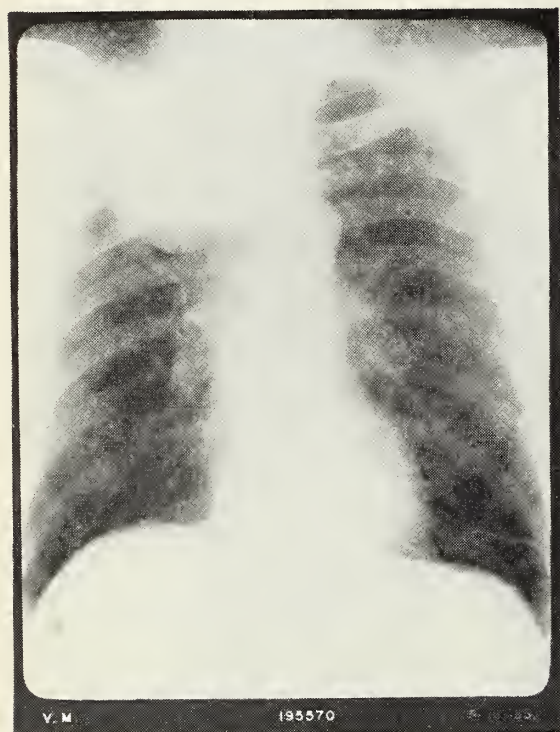


Figure 4-A, upper left; Figure 4-B, upper right; Figure 4-C, lower left; Figure 4-D, lower right. Cancer of lung. Example of palliative results obtainable with irradiation. Male, age 55, with cough, hemoptysis with slight chest pain: A and B before irradiation; C and D one year after irradiation. Patient relieved of symptoms for two years; then gradual recrudescence and ultimate death with cerebral metastasis. Microscopically epidermoid cancer. Tumor dose 4000 r in four weeks.

### Lymphoblastoma and Leukemia

For purposes of brevity these two lesions will be considered as a group. The work of Hamann and Hodges at the University of Chicago has shown the relatively good control obtainable with properly given roentgen irradiation. Our experience with nitrogen mustard therapy has not been extensive, but is sufficient to suggest that the remissions obtainable with that chemical are of shorter duration than those obtainable with properly given and properly spaced roentgen therapy. It is generally agreed now that most cases of chronic leukemia do better with small doses of roentgen irradiation than with irradiation by internally administered radiophosphorus.

TABLE III

*Results of Radiation Therapy in Lymphomas  
(Survival after beginning of x-ray therapy)*

	Cases	3 Years	5 Years
Chr. Myelog. Leukemia	49	33%	14%
Chr. Lymph. Leukemia	51	30%	23%
Hodgkin's disease	143	35%	21%
Lymphosarcoma	77	12%	9%

(Average survival in first three groups approx. 32 mo. \*)

cervix uteri, corpus uteri, lip, skin, larynx, and a few miscellaneous visceral lesions. It also includes 13 cases of Stage II cancer of the breast in which arrest has been obtained by a combination of surgical and radiological means. In all instances the microscopic diagnosis made at the time of the initial roentgen therapy has been reviewed, and if necessary, the original blocks resectioned by the consulting pathologist. The series of cases is not large, but is invaluable documentary evidence of the fact that selected cancers are controllable.

### Summary

In this brief outline we have emphasized that permanent cure can be obtained by radiological methods alone in suitable cases of cancer. As with surgical methods, radiological methods are most successful in the accessible group of tumors. By careful attention to this group, it is believed that the present cure rate can be doubled. It is not suggested that we should diminish our efforts at control of in-

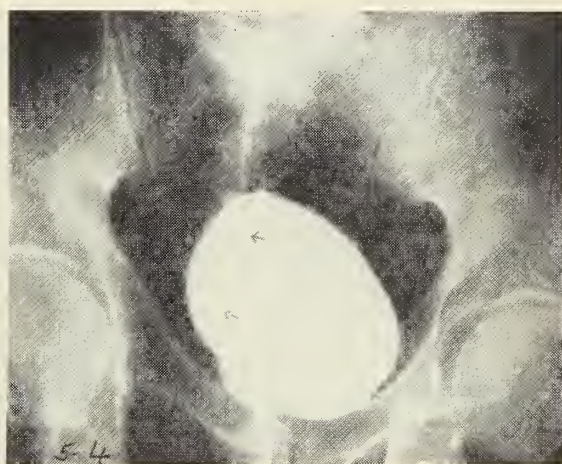


Figure 5-A, left; Figure 5-B, right. Cancer of bladder. Example of palliation which can be achieved with external roentgen therapy. Male, age 72, with hematuria. Extensive nodular tumor of right side of bladder. Biopsy showed moderately well differentiated carcinoma. Tumor dose 3200 r in four weeks in October, 1947. Bleeding stopped; follow-up cystograms in May, 1948, disclosed smooth bladder outline. Cystoscopy showed no evidence of tumor. Patient controlled for two years.

### Permanency of Radiological Cure

We have investigated the permanency of radiological arrest of cancer in a group of 50 cases treated from 10 to 20 years prior to this analysis. The group comprises the usual spread of curable lesions, namely

accessible tumors. However, we must be realistic as to the relative results obtainable today, and encourage the widespread use of therapeutic methods of proven value in the area wherein they are most useful.



## Tumors of the Testis

Robert A. Moore, M.D.

St. Louis, Missouri

It has been my privilege for the last eight years to study all the material on tumors of the testis in what was the Army Institute of Pathology and which is now the Armed Forces Institute of Pathology. To give you some idea of the magnitude and volume of that material, there were recorded in the files of that institute 1,200 examples of tumors of the testis up to December 31, 1948. Most of these were accumulated at the Institute after 1940.

I think that most people have had the experience that we have had in studying this material. By we I include a number of other individuals, particularly Dr. Nathan Friedman, who is now in Los Angeles at the Cedars of Lebanon Hospital; and Dr. Frank Dixon, who is now on the staff in the Department of Pathology, Washington University School of Medicine, St. Louis.

In the first 25 tumors of the testis which are examined microscopically, you are certain that there are 25 different kinds of tumors of the testis and that every one is a little different; but after you have studied 100 examples of this tumor you come to the conclusion that perhaps there are only 50 different kinds. After you have studied 300 or 400 you decide, or let us say that we have felt, that there are only four kinds of tumors of the testis significant in terms of histological structure and of prognosis. From the standpoint of the patient, and from the standpoint of clinical medicine, one need recognize only four types of teratoid tumor of the testis.

Now perhaps I might take a moment to explain what I mean by teratoid tumor. If you assemble together all of the tumors of the testis which are available in any laboratory, you find that somewhere between 97 and 98 per cent of those tumors fall into the class which can be termed collectively teratoid tumors. There are one per cent or two per cent of interstitial cell tumors of which I will not speak this morning, and less than one per cent of a wide variety of tumors which are not characteristic of the testis, fibromas, myomas, angiomas and other tumor types. For all intents and purposes the study of tumors of the testis is the study of the teratoid group of tumors.

Now we shall review the four types which we believe to be the basic cellular types of teratoid tumors of the testis (slide). The first is what is generally called an adult teratoma. The adult teratoma is characterized grossly as a tumor of moderate size which is firm in consistency, is sharply

encapsulated and circumscribed from the surrounding testicular tissue. On cut section it is composed of gray or gray-white fibrillary tissue throughout which there are scattered tumor islands of white epithelial tissue, or yellow glandular epithelial tissue, islands of cartilage and bone, and other structures which may be recognized grossly.

Microscopically, it is composed exclusively of an adult type of tissue of varied types. Most characteristic is glandular epithelium forming a definite glandular space surrounded by a supporting tissue, and frequently about the glandular epithelium smooth muscle fibers. The adult teratoma is an organoid type of tumor in which there is an inter-relation between the various cellular types. This inter-relation is essentially that of the normal somatic structures of the body and we may recognize in these teratomas very definite structures such as stomatol epithelium, gastro-intestinal tract, respiratory tract, bronchi and various other organoid structures.

The next slide is an example of a dermoid type of structure in which there is a space lined by stratified squamous epithelium with accessory structures of the skin in the wall surrounded by connective tissue, but devoid of muscle. Muscle does not differentiate around the squamous type of epithelium. Dermoid cyst as such is an extremely rare tumor in the testis as compared with its occurrence in the ovary.

The five-year survival rate of the teratoma is about 95 per cent. Five per cent of all patients who show on microscopic examination nothing but adult structures will die within five years from metastases of a malignant tumor. I shall have more to say about this later, inasmuch as it is an extremely important point in the evaluation of the teratoid tumors of the testis.

The second type of the tumor we have chosen to call seminoma. It has also been designated embryonal carcinoma with a lymphoid stroma and has more recently been called, particularly in the ovary, a dysgerminoma. This is a type of tumor that occurs both in the testis and the ovary. It is characterized grossly as a tumor of small to moderate size (rarely of large size), which is circumscribed from the surrounding testicular tissue on gross examination but is not encapsulated. It infiltrates very slightly into the surrounding testicular tissues.

On the cut section it is gray in color, finely granular, and bulges from the cut surface. The cut surface

does not show foci of necrosis or hemorrhage which are characteristic of other types of testicular tumors. This is a fleshy gray, finely granular tumor tissue without foci or necrosis or hemorrhage.

Microscopically it is characterized by large islands of cells separated from one another completely or incompletely by connective tissue trabeculae which are infiltrated with lymphocytes, plasma cells and eosinophilic leukocytes. The individual cellular type can be seen better in the next slide in which there are prominent cell walls, and where the cytoplasm in the characteristic tumor is a clear type with very little protein in the cytoplasmic structure. The nuclei occupy one-half to one-third of the cell and have a prominent mass of chromatin or nucleolus in the center of the nucleus. The connective tissue stroma is of varying amount, infiltrated with a varying degree of cells.

After adequate treatment (and by adequate treatment I mean surgical removal of the testis and of the cord, with either x-ray radiation to the abdomen or radical removal of all of the lymph nodes as far as the renal artery), you may expect somewhere between 60 and 70 per cent of five-year survivals with this type of tumor.

The third type of tumor we have called an embryonal carcinoma. This tumor is characterized grossly as a large bulky tumor which replaces the testis, and frequently testicular tissue cannot be identified. It is soft in consistency, not encapsulated, and on the cut section consists of soft tissue with numerous foci of necrosis, hemorrhage and at times, calcification. The entire tumor is rarely if ever completely replaced by hemorrhagic tissue (which is characteristic of the fourth type that I shall discuss in a moment).

Microscopically this tumor has a varied structure, but the basic pattern is the type of cell which you see here, gathered together in lobules surrounded by connective tissue trabeculae which may be infiltrated with a few lymphocytes. The cell type is radically different from that of the cell type of the seminoma in that the cell walls are difficult to establish, and the cytoplasm has a tendency to be amphophilic; in other words, to take some degree of basophilic staining. It shows a tendency to be vacuolated, and apparently the vacuoles in the adjacent cells may become confluent to make larger vacuolated spaces. The nuclei are lightly chromatic, containing several knots of chromatin throughout the nucleus with some condensation of chromatin at the periphery of the nucleus. The foci of necrosis are prominent both grossly and microscopically such as you see in the top part of this section. The variance where there is confluence of the vacuolar spaces with the establishment of what appears to be almost a glandular or

papillary type of epithelial structure is seen in this section.

Five-year survival rate after adequate therapy with the embryonal carcinoma will not exceed 30 per cent.

The fourth type is the chorio-carcinoma, the tumor identical in histological structure with the tumor occurring in the uterus after a pregnancy. This tumor is characterized by two types of cells, one of which you see here and one here. This cell is large with an indefinite cell border having a vacuolated cytoplasm with multiple nuclei of the type which I have just described as the syncytial trophoblasts of the developing placenta. It is that cell which is definitely related to the chorio-carcinoma. This cell is identical to that of the embryonal carcinoma, so far as can be determined, and represents the cytotrophoblast of the developing placenta. Now the chorio-carcinoma must have two cellular types, the cytotrophoblast and the syncytial trophoblast, in some relation to one another. That relation may be irregular such as you see in this example. In the next slide you see a regular relation between the syncytial trophoblast on the outside and the cytotrophoblast on the inside representing abortive, immature chorionic villi of a developing placenta. The cytotrophoblast is the cell that makes chorionic gonadotropins whether it be in the normally developing placenta or in the chorio-carcinoma. I shall have some more to say about that in a moment when we speak of the relation of these tumors to production of hormones and the use of the identification of those hormones in the diagnosis of the tumor types.

In chorio-carcinoma five-year survivals are either zero or something under one per cent. The five-year survival of a patient with an established diagnosis of chorio-carcinoma is a great rarity.

Now these four cellular types in contrast with most of the somatic tumors of the body are not absolute in terms that every tumor has only one cellular type. In fact, in 237 tumors, where we made 368 diagnoses, we found that on an average there are one and a half cellular types for each tumor so that most teratoid tumors of the testis are, if you wish, mixed tumors in the sense that they contain two or more cellular types. Of these 237 tumors with 368 diagnoses, we diagnosed adult teratoma 108 times, seminoma 100 times, embryonal carcinoma 144, and chorio-carcinoma 16 times. That will give you some idea of the relative incidence of these various cellular types. These are named as you can see from the discussion of the prognosis in the relative order of malignancy of the tumor.

Now these four cellular types (slides) are associated in very definite ways, for in all tumors of the group I have just described, 19 of the 108 adult teratomas were unicellular. In other words it is



relatively rare, with only 18 per cent of the tumors showing adult teratomatous structure, being purely adult teratoma. On the other hand, 71 per cent of the 100 seminomas, 26 per cent of the embryonal carcinomas, and 12 per cent of the chorio-carcinomas were unicellular. This would indicate that the seminoma, although it is a part of this group, is a little different from the others, inasmuch as it occurs much more frequently as a unicellular tumor than do the other three types of tumors. Again I shall have more to say about that later. Therefore, from the microscopic standpoint, we believe it is profitable in terms of clinical-pathologic correlation to recognize four cellular types of teratoid tumors of the testis, recognizing that these are mixed with one another in various relations in any particular tumor, and that a careful gross and microscopic study of each tumor is necessary in order to determine whether or not any one of the lower types of tumors is present, since that will materially influence the five-year survival rate.

Chorio-carcinoma and embryonal carcinoma in general are to be recognized grossly by foci of necrosis and hemorrhage so that any focus of necrosis or hemorrhage in a tumor of the testis should be carefully examined microscopically to be certain that the more malignant types are not present in that tumor.

One of the more important clinical problems in connection with tumors of the testis is that of the secretion of chorionic gonadotropin in the urine by some patients who have a tumor of the testis. This was first brought to the attention of the medical profession in the late 1920's when the statement was made that we need no longer study the microscopic appearance of a testicular tumor, but we need only determine the amount of chorionic gonadotropin in the urine and from the amount we could infer the type of testicular tumor present: small amounts, adult teratoma; large amounts, chorio-carcinoma. Many people have found that this method is not quite correct, that the problem is not as easy as that simple statement would imply.

Further study has demonstrated that in the urine of some patients with testicular tumor there are two types of gonadotropins. There is a small amount of hypophyseal, or pituitary gonadotropin, and a large amount of chorionic gonadotropin. Chorionic gonadotropin is derived from cytotrophoblasts. Further study reveals that all patients carrying testicular tumor, regardless of the cellular type, have a small amount (but excessive for the normal) of pituitary gonadotropin in the urine. Therefore in any study of this problem we must recognize two types of gonadotropin. In one instance, the pituitary gonadotropin is present in all patients with all testicular

tumors, and chorionic gonadotropin is present only in certain cellular types.

It is the latter one in which I am particularly interested. Here in an embryonal carcinoma you see at the edge cells that are beginning to be multinucleated which have a distinctly basophilic cytoplasm in contrast with the other cells of the embryonal carcinoma, and if you compare that histologic structure with the developing structure of a human placenta at six or seven days of gestational period you will find that there are great similarities. This, in fact, apparently represents the early differentiation of the syncytial trophoblasts out of cytotrophoblasts, and one might conclude then that all embryonal carcinomas are in fact cytotrophoblastomas. They are tumors of cytotrophoblasts. We know in the normally developing placenta that the cytotrophoblast is the cell which makes chorionic gonadotropin. Gonadotropin is high in the early stages of pregnancy, in the first two months, and that is the time when the cytotrophoblasts begin to differentiate into fibroblasts, into angioblasts and other cells and decrease in number, and that it is at that time that there is a decreasing amount of chorionic gonadotropin in the urine of pregnant women.

The embryonal carcinoma is then a cytotrophoblastoma and this gives us support for the idea that all embryonal carcinomas should therefore have excessive gonadotropin in the urine, or all in the biologic sense of somewhere above 90 to 95 per cent. If you will check, you will find that this is true. All the embryonal carcinomas do have excessive chorionic gonadotropin in the urine.

A rare patient with a seminoma has chorionic gonadotropin in the urine, and a rare example of seminoma shows large cells that have the appearance of syncytial trophoblasts throughout the seminoid structure. The next is a higher power of this cell in which you see the typical syncytial trophoblasts; multi-nucleation, irregular cell border, vacuolation of the cytoplasm, and vascular spaces running through the cytoplasm of the cells. In terms of the normal differentiation of the cells, this would mean that these seminoma cells, although they do not ordinarily demonstrate their capacity to be a cytotrophoblast, may exhibit that capacity and differentiate into syncytial trophoblasts. The seminoma cell is then, at least potentially, a cytotrophoblast, although it does not exhibit that potentiality in but one or two per cent of all patients with that cellular type of tumor.

A summary of what we believe to be the present position in relation to the urinary secretion of hormones is as follows: all patients have a small amount, but excessive over the normal, of pituitary

gonadotropin; that almost all patients with embryonal carcinoma and chorio-carcinoma have excessive amounts of chorionic gonadotropin; and that a few patients with seminoma have excessive amounts of chorionic gonadotropin in the urine. No patient with a pure adult teratoma has any excessive amount of chorionic gonadotropin in the urine.

Now to put this in practical terms. If your laboratory is carrying out a test for gonadotropin in the usual way, such as an Aschheim-Zondek or Friedman test, and is using a very sensitive method, the pituitary gonadotropin will be picked up and positive results will be reported in every patient with a testicular tumor. If you are using a relatively non-sensitive method you will pick up only the excessive amounts of chorionic gonadotropin and will report positive reports only in some of the tumors. I believe this is the explanation for the confusion and the difference of opinion that is apparent if you read the literature on this subject. If you want to be very certain of any particular tumor type, you must use hypophysectomized rats and determine which one of the two types of gonadotropin is present, pituitary or chorionic, if you are to be certain that it is present in excessive amounts and is related to the type of the tumor present.

A third point which I would like to discuss with you very briefly is histologic, but I think of some interest in relation to the nature of these tumors, and that is the organization within the teratoid tumors. Here is a piece of the gastro-intestinal tract with mucosa, submucosal lymphoid tissue and muscularis arranged in two layers, with the blood vessels penetrating the muscularis exactly as they do in the normal intestine. The next is a higher power of the intestinal mucosa, the mucosa on the two sides, and in between lymphocytes, plasma cells and eosinophilic leukocytes in this intestinal mucosa. The point that seems to me of some interest, one which pathologists have discussed for years, is whether or not the presence of eosinophilic leukocytes in the intestinal mucosa is normal or abnormal. Here, certainly, it occurs in the intestine present in a teratoid tumor of the testis, hence the eosinophilic leukocyte must be an integral part of the normal intestinal wall, and has no relation to worms or intestinal contents that may be contained within the lumen.

Here is a joint found in one of these teratoid tumors, with two pieces of cartilage, a joint space and little villi extending into it at this side. When two pieces of cartilage come together there is an induction and change in the tissue between them and the formation of a joint.

Next is a piece of stomatial epithelium. Here is

the epithelium that can well be lip, here the developing lamina of the tooth, and down here stomatial epithelium that has a close resemblance to enamel epithelium. This is a very common type of cell. The next is a higher power of this structure in which you see the enamel type of epithelium and between the epithelium and connective tissue a fine red line which is an early deposit of dentine around this enamel organ. Outside, the connective tissue cells are becoming more compact to form the odontoblasts of this developing tooth.

Next is skeletal muscle, characterized by peripheral nuclei and connective tissue in between. Next is bone with many osteoblasts along the edge and as yet no developing of the bone marrow, but the many examples of bone in these tumors will result in bone marrow within the marrow cavities.

So much for organization and induction in these teratoid tumors. The presence of one type of tissue will induce the presence of another type in some definite relation to it. I think it is fair to say that a careful study of a large series of teratoid tumors of the testis would probably tell us more about the problems of experimental embryology, the induction and organization that goes on in the formation of somatic organism, than the study of the normal development of that same organism, because you have every possibility and combination in these teratoid tumors.

Now to return for just a moment to this problem of the adult teratoma. A patient dies of the metastases of a malignant tumor. Here is the pampiniform plexus of the patient who had a teratoid tumor of the adult teratomatous type which was entirely benign. You see within the lumen of the pampiniform plexus, vascular invasion by tissue of an adult type. We can draw either one of two conclusions concerning this. First, that this tumor was always benign and that this benign tumor invaded a venous plexus. I think in terms of general pathology, that is untenable. The other explanation is that this tumor was once upon a time malignant, at which time it invaded the vascular structures, and subsequently it differentiated into a more benign adult type of tumor. This is not unknown in general pathology.

There are a number of examples in which a malignant tumor, particularly of the nervous system, has differentiated into a benign tumor over a period of months or years in which successive biopsies showed that it was originally malignant and subsequently benign. I believe that is the explanation for the occurrence of this type of tissue in vascular spaces and is the explanation for the death of five per cent of these patients with adult teratomatous tumors. That the tumor was once malignant (and I would extend that to the point that all testicular



tumors originate as malignant tumors), and that some of them differentiate into benign tumors during the course of development of the tumor, is my belief.

Now a final point concerning histological structure, which I believe bears on the nature of these tumors. In studying many testicular tumors, you will at some time be impressed with this structure—a roughly oval or round structure in two dimensions of compacted connective tissue on the outside of a very primitive type with a very loose type of connective tissue inside. At some point one or more spaces will be lined with a flattened type of cell at one or more places, at another point an epithelial type of structure within that loose connective tissue; and at one or more places a group of syncytial and cytotrophoblasts will represent a developing placenta. Next is a variation of this in which you see the syncytial and the cytotrophoblasts, here the thin-walled space, and up here the epithelium. When I first saw the microscopic appearance of this photomicrograph, I felt certain that I had seen something in the literature like it. I turned to Arthur Hertig's papers on the early stages of the developing human embryo and there is an almost exact picture of a normal-developing, human embryo, except that the embryo in this tumor is down here under normal conditions. It is not too much to expect that an embryo developing in a malignant tumor of the testis would have the embryo slightly misplaced in relation to the amniotic cavity.

Now if there occur, and I believe they do occur, embryos in teratoid tumors of the testis, we are forced to the conclusion that the origin of these tumors is from the totipotent sex cell, and we are forced to the conclusion that the sex cell undergoes parthenogenesis. Thence, from it develop all the structures of the normally developing embryo, Heuser's membrane (the thin-walled membrane), the amniotic cavity, the embryo, the placenta, and the extracelomic mesoderm exactly as it occurs in the normally developing embryo.

Now, to try to put all of this together for you in a few minutes. Under normal conditions the sex cell undergoes fertilization. There is a fertilized ovum, and from that fertilized ovum two types of cells develop: the somatic cells, which will make the organism of the next generation, and the trophoblastic cells, which will be used as the placenta for a limited period of time and then discarded. Now if this sex cell undergoes orthogenesis, a totipotent cell could be formed in exactly the same way and from that totipotent cell there would develop trophoblastic cells and somatic cells exactly as on the normal side. This is the line of formation of all tumors of the testis from the sex cell.

If these somatic cells went on to develop into tissues that resemble the somatic cells of the child and the adult, there would be two stages: immature teratoma in which the structure would resemble very immature fetal tissue and the more mature which is the usual type where bone, muscle, gastrointestinal tract and other normal structures are seen. Under very rare conditions a carcinoma could originate in a mature teratoma. I think I have seen a few carcinomas of the testis that probably are not teratoid tumors, but represent carcinomas of the colon originating in a colon of a teratoid tumor of the adult type. But that is a very rare type of testicular tumor.

As the trophoblastic cells develop, they may develop first into cytotrophoblastoma or the embryonal carcinoma, and if there is further differentiation they go over into the chorio-carcinomas. We then have three of the four cellular types which I described: the teratoma, the embryonal carcinoma, and the choriocarcinoma. Now, remember that I submitted some evidence to you that the seminoma was a little different—not quite the same type yet it was within the group—so let us go on to the next slide in which you bring the seminoma down as a direct neoplastic proliferation of a sex cell, to put it not only within the group but also in a little different group. However, we know that the seminoma is at times associated with these other tumor types. It is not completely isolated and separate from the other three, so that in the next slide we might draw a little dotted line across to indicate that parthenogenesis within the seminoma may occur. This process is rare in comparison with the direct neoplastic proliferation and with direct pathogenesis and the development of the other tumor types. The association of the seminoma with the other tumor types you remember occurs in less than 30 per cent of all seminomas.

Now on the final slide I have placed a dotted line about those cells in the teratoid tumors and in the normally developing somatic organism which develop and excrete into the blood stream chorionic gonadotropins. The other tumor types do not develop chorionic gonadotropin in the urine. This places testicular tumors in a little different group from the other somatic tumors of the body, and they represent a tumor which is comparable to a person of the next generation, when they occur in the gonads. When they occur in other parts of the body, perhaps they represent siblings of the individual carrying them, in that a totipotent cell is left over in development along the midline, in the pineal region, in the mediastinum, or in the sacral-coccygeal region. From that totipotent cell, a sibling of the somatic organism carrying it, there develops a

teratoid tumor. But the ones in the gonads represent a tumor of the next generation.

All teratoid tumors of the testis are in one group, and there are four cellular types, these being associated with one another in a variable proportion. The determination of the amount of chorionic gonadotropin in the urine is valuable in diagnosis

and prognosis, provided you determine chorionic and not chorionic and pituitary gonadotropin. This classification and theory concerning testicular tumors fits in well with clinical experience, in that the four types represent different clinical types with different prognosis and different clinical behavior.





## **Kansas Division, American Cancer Society**

President, Howard E. Snyder, M.D., Winfield

Vice President, Mrs. Tom Stewart, Wellington

Chairman, Executive Committee, W. Laird Dean, Topeka

Secretary, J. W. Kirkpatrick, El Dorado

Treasurer, J. D. Bjorkman, Kansas City

Executive Director, Harry M. Dawdy, Topeka

## **Executive Committee**

### **Kansas Division, American Cancer Society**

W. Laird Dean, Topeka

John T. Andrews, Lawrence

Creola-Charles Baker, Pratt

Floyd C. Beelman, M.D., Topeka

J. P. Berger, M.D., Wichita

J. D. Bjorkman, Kansas City

Mrs. W. C. Cavert, Independence

Orville R. Clark, M.D., Topeka

David S. Jackman, Wichita

Mrs. J. E. Johntz, Abilene

Mrs. L. W. Kesler, Winfield

J. W. Kirkpatrick, El Dorado

Charles H. Miller, M.D., Parsons

C. C. Nesselrode, M.D., Kansas City

J. H. A. Peck, M.D., St. Francis

Howard E. Snyder, M.D., Winfield

Mrs. Tom Stewart, Wellington

Robert E. Stowell, M.D., Kansas City

Karl E. Voldeng, M.D., Wellington

## **Committee on Control of Cancer, Kansas Medical Society**

Orville R. Clark, M.D., Topeka, Chairman

John P. Berger, M.D., Wichita

Harold O. Bullock, M.D., Independence

Leland F. Glaser, M.D., Hutchinson

David E. Gray, M.D., Topeka

Christian A. Hellwig, M.D., Wichita

Joseph J. Hovorka, M.D., Emporia

Willard J. Kiser, M.D., Wichita

Maurice V. Laing, M.D., Kansas City

Charles H. Miller, M.D., Parsons

Otto F. Prochazka, M.D., Liberal

Robert H. Riedel, M.D., Topeka

Howard E. Snyder, M.D., Winfield

Robert E. Stowell, M.D., Kansas City

Galen M. Tice, M.D., Kansas City

Larry E. Vin Zant, M.D., Wichita

Karl E. Voldeng, M.D., Wellington

## **Editorial Board, Journal of Kansas Medical Society**

Lucien R. Pyle, M.D., Editor, Topeka

John W. Cavanaugh, M.D., Topeka

Orville R. Clark, M.D., Topeka

Richard Greer, M.D., Topeka

Dwight Lawson, M.D., Topeka



To the Doctors of Kansas:

Some years ago an eminent medical authority said, "With few exceptions, the life of the cancer patient is in the hands of the first physician he sees."

Recent advances in medicine have given this statement increasingly greater significance than it has ever had before. Modern surgical and radiotherapeutical methods, supported by such ancillary disciplines as anesthesia, chemotherapy, and nutrition, have, in the past 50 years, rendered one form of cancer after another curable to such an extent that the statement, "Early cancer can be cured," has become meaningful and utilitarian for virtually every form of the disease.

Early detection and adequate treatment have been the basis for the professional education program which has been developed by the Committee on Control of Cancer of the Kansas Medical Society and in which it has been the pleasure of the Kansas Division of the American Cancer Society to cooperate.

The Kansas Division, upon the recommendation of your Committee on Control of Cancer, has consistently supported the theory that "Every doctor's office or clinic should be a cancer detection center." This theory is based on the equally sound premise that a large section of the public visits a physician at least once annually. Therefore, it is reasonable to assume that most accessible cancers in such persons will be discovered early if physicians will perform office physical examinations on all patients.

The Kansas Division feels it has a responsibility to provide the physicians of Kansas with the necessary "tools" to help them render better service to the people. One of these "tools" is the latest information related to cancer detection, diagnosis and treatment.

The annual Mid-West Cancer Conference, the bi-monthly Cancer Bulletin, the periodic Monographs, and other special bulletins from time to time, are all indications of our efforts to be your partners in the great task of cancer control. We appreciate the splendid support you have given these efforts in the past, and we covet your continuing cooperation.

Kansas Division, American Cancer Society, Inc.

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

SEPTEMBER, 1950

No. 9

## Angiomata of the Liver, Spleen and Mesentery: A Case Report

David M. Gibson, M.D., and William M. Wyatt, M.D.\*

Kansas City, Kansas

Angiomatous malformations are rather frequently found in the liver, but those occurring in the spleen and mesentery are distinctly less common. They may exist as hemangiomas, lymphangiomas, or as combinations of both.

Hemangiomas occur more often in the liver than in any other internal organ.<sup>1</sup> In a recent review of the literature, Pines and Rabinovitch<sup>2</sup> found only 36 cases of true hemangiomas of the spleen, and added six of their own cases. The incidence of hemangiomas of the spleen at autopsy is stated to be approximately 0.1 per cent.<sup>3</sup> Angiomata of the mesentery are uncommon and are usually of the lymphangiomatous type, but these have been reported to co-exist with hemangiomas.<sup>4</sup>

Angiomata are regarded as developmental anomalies, usually congenital, rather than true neoplasms.<sup>2, 5</sup> They have been described in practically every organ and structure in the body, are frequently multiple, and thus may be present in many different combinations.

A case of hemangioma of the liver, co-existing hemangioma and lymphangioma of the spleen, and lymphangioma of the mesentery follows:

M. C., a 58-year-old Mexican female, was admitted to the University of Kansas Medical Center with the chief complaints of vaginal bleeding and foul vaginal discharge. Physical and biopsy examination disclosed an ulcerated anaplastic carcinoma protruding from the cervix. Two months later, after radium therapy, the patient appeared with a tumor mass just above the umbilicus associated with signs of intestinal obstruction. At operation a mass of tumor tissue measuring 15 cm. in diameter was found in the omentum; a portion of this mass formed an omental hernia and produced partial obstruction of the transverse colon. Multiple small

peritoneal implants were also noted. Removal of the obstructing mass and repair of the omental hernia were carried out. The postoperative course was uneventful until the ninth day, when the patient suddenly developed chest pain and severe dyspnea and died within a few minutes.

Autopsy: The immediate cause of death was attributed to pulmonary embolism derived from thrombosed parametrial veins.

The anterior superior portion of the uterine cavity showed polypoid adenocarcinoma measuring three cm. in diameter. Multiple small metastatic tumor nodules were irregularly dispersed over the peritoneum and abdominal viscera, including the surfaces of the broad ligaments, the liver and the spleen. These nodules varied from a few millimeters to three cm. in diameter.

Tumor nodules of a different gross appearance were found in the liver, spleen and mesentery of the small intestine. Four of these were found in the liver, varying from 0.5 to one cm. in diameter. The spleen contained three such nodules, the largest of which measured four by three by two cm. and was

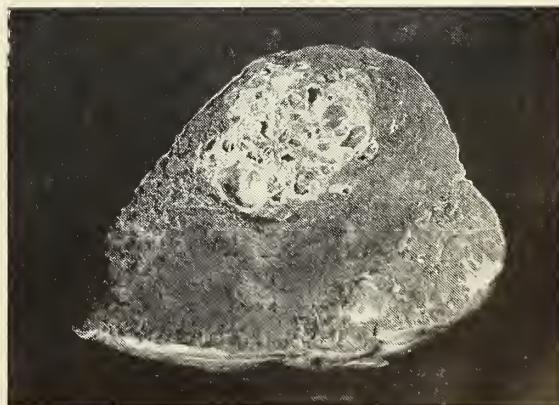


Figure 1. Photograph of section of the spleen showing the angiodioma in the upper half. Natural size.

\*From Department of Pathology, University of Kansas Medical Center.



located subcapsularly. The other two nodules were slightly less than one cm. in diameter, and were seated deep in the splenic pulp. Within the mesentery, two nodules were found, one of which measured one cm., and the other two cm. in diameter. Grossly, these were all similar in appearance. They were all well defined, their margins being easily demarcated from the surrounding tissue. On cut section, they presented a honeycombed appearance, forming many various sized cystic spaces. Most of the spaces were filled with a yellow, transparent fluid, which, when allowed to escape, caused collapse of many of the thin cystic walls.

The right ureter was double in the proximal portion for a distance of two cm. before joining to form the main ureter. Both segments were patent and both measured three mm. in diameter. Multiple small diverticuli were present in the descending colon.

**Microscopic Examination:** The veins of the broad ligaments contained multiple thromboses, and ante mortem thrombi were present in the pulmonary arteries. There was an adenocarcinoma of the body of the uterus with generalized metastases to the peritoneal cavity. The findings of interest with regard to this study were in the liver, spleen and mesentery.

**Liver:** The capsule was not thickened, and the usual lobulated architecture was present. Some inflammatory cells were seen around the portal spaces, and there was some cytoplasmic vacuolization of the liver cells in the portal area. The central veins and sinusoids were distinct. In one area, just beneath the capsule, the liver tissue was replaced by an irregular network of large endothelial lined spaces surrounded by thick, anastomosing strands of fibrous tissue. The fibrous tissue was generally cellular, but was collagenous in some areas. Many small capillary spaces were contained within the fibrous walls. The large endothelial lined spaces all contained varying numbers of red blood cells as well as a few inflammatory cells.

**Spleen:** The capsule was thickened, and the Malpighian bodies were large and poorly outlined. The pulp was congested and the sinusoids were not

distinct. In one area, the splenic tissue was replaced by many large, irregular, endothelial lined spaces, surrounded by thick bands of connective tissue resembling that seen in the liver. In many areas the stroma between the spaces was composed of splenic pulp. Many of the spaces were packed with red blood cells, while others contained pink staining, homogeneous material and no red cells. Considerable proliferation of young connective tissue was seen in one area.

**Mesentery:** The mesenteric fibro-adipose tissue was replaced in one area by a cluster of thin walled, endothelial lined spaces surrounded by thin strands of connective tissue and adipose tissue. These spaces contained pink staining granular debris, many leukocytes, and occasional red blood cells. Many small accumulations of lymphoid tissue were seen in the surrounding mesenteric tissue.

**Anatomical Diagnosis:** Multiple venous thromboses of the broad ligament, pulmonary emboli and thrombosis. Anedocarcinoma of the body of the uterus with generalized peritoneal metastases. Hemangiomas of the liver; co-existent hemangiomas and lymphangiomas of the spleen; lymphangioma of the mesentery. Double right ureter; multiple diverticulosis of the descending colon.

**Comment:** A case is reported in which a rather unusual combination of angiomas were present in the liver, spleen and mesentery. The lesion in the liver was a hemangioma; that in the spleen co-existing hemangioma and lymphangioma; and that present in the mesentery a lymphangioma. In view of the fact that angiomas are regarded as developmental anomalies, it is interesting to note also the presence of other congenital defects, such as the double right ureter and the multiple diverticuli of the descending colon.

#### References

1. Shumacker, Harris B. Hemangioma of Liver. *Surgery*, 11:209-223, February, 1942.
2. Pines, Bernard and Rabinovitch, Jacob. *Arch. of Path.*, 33: 487-503, April, 1942.
3. Reich, William W. and Van Tassell, Lloyd R. *Am. J. Surg.*, 75:840-844, June, 1948.
4. Herrman, Clinton S. and Soloff, Louis A. Lymphangioma and Hemangioma of the Mesentery. *Am. J. of Surg.*, 30:125-129, October, 1935.
5. Willis R. A., Mosby and Co., 1948 - 700.

# Bilateral Popliteal Embolus: A Case Report

L. J. Hanis, M.D.\*

Kansas City, Kansas

Embolism involving the popliteal arteries has been reported by various authors<sup>1</sup> to comprise nine to 15 per cent of all embolic phenomena, and is recognized as one of the vessels least affected. Embolism in general is difficult to treat and carries a poor prognosis, even in the hands of experienced men. The following case is presented because of its unusual occurrence and diagnostic problem.

A white male, age 61, was admitted to the hospital January 10, 1949, at 3:45 p.m. complaining of severe cramp-like pains in both extremities below the knees and shortness of breath. The history of the present illness revealed intermittent dyspnea on effort for several months with occasional dependent edema. A past history of heart trouble was obtained; the patient had been digitalized previously, but discontinued his medication approximately three months ago. At 3:30 p.m., while at work, the patient experienced a sudden severe cramp-like pain in both calves and noted that his feet became cold and numb. Physical examination revealed moist rales over the base of both lungs, a slightly enlarged heart with the apex rate 140 and the radial 100; no murmurs were present and the blood pressure was 160/90. The liver was two fingers below the costal margin and slightly tender to pressure. The extremities were dry, cold and blanched from the knees down with spasm of the calves, which were extremely tender to pressure, the left leg predominating in these findings. Femoral and popliteal pulsations were present bilaterally while the dorsal pedis and posterior tibial were absent, bilaterally. A diagnosis of auricular fibrillation with left popliteal embolism and reflex spasm of the right vascular system was made.

The laboratory data was essentially negative except for a white blood count of 13,100.

## Treatment and Progress

5:55 p.m. Five cc. of etamon chloride intramuscularly. The lowest blood pressure reading was 140/80, the highest 160/90; readings at five minute intervals. Bilateral paravertebral blocks.

7:42 p.m. Left leg colder than right, also having a more mottled hue.

8:52 p.m. Spinal anesthesia 13½ mgm. in 2.0 cc. of 10 per cent dextrose plus 0.3 mgm. of epinephrin hydrochloride.

9:15 p.m. Both legs felt slightly warmer, the

right more than the left. Spasm still present bilaterally. The patient was relieved of pain.

9:48 p.m. Intravenous procaine hydrochloride 1.0 gms. in 700 cc. of normal saline started.

10:05 p.m. No change from 9:15 reading.

10:20 p.m. Embolectomy of left popliteal artery advised. A loose clot was removed approximately two inches proximal to the bifurcation of the peroneal and posterior tibial arteries. The anterior tibial was not identified. A small caliber suction catheter was passed five to six inches distally and several loose clots removed. The artery was closed with vertical mattress sutures and pulsation was felt two to three inches below incision.

11:00 p.m. Exploratory of the right popliteal artery decided on because of poor prognosis of the left leg and no change in physical findings since administration of spinal anesthesia and intravenous procaine hydrochloride. The findings were identical to those of the left leg. Both legs were wrapped in sheet wadding, and patient returned to room. Heparinization of the patient was begun immediately and dicumarol therapy was started orally.

2:00 p.m. January 11, 1949, the prothrombin time was four minutes and the clotting time three hours (Lee and White).

During the next nine days, the treatment consisted of bilateral lumbar sympathetic block, papaverine hydrochloride, dicumarol, etamon chloride intravenously and intramuscularly, with five minute readings of the blood pressure. The patient was digitalized slowly. Cyanosis of both feet was first noted on January 14, 1949. During the following days cyanosis progressed to the middle one-third of the left leg and on the right to the level of the ankle with areas of ecchymosis on the upper lateral side of the calf immediately below the knee. On January 21, 1949, a bilateral guillotine type amputation above the knees was performed. The patient was dismissed on February 4, 1949.

The arteries were dissected and the left popliteal was found to be occluded approximately one inch below the previous incision. The upper portion of the anterior and posterior tibial and peroneal arteries were also occluded. The arteries of the right leg were similar.

*Microscopic:* Arteriosclerosis with calcification and antemortem intravascular thrombi; phlebotrombosis.

*Comment:* This case is presented because of its

\*Resident in Surgery, St. Margaret's Hospital, Kansas City, Kansas. Made possible through the auspices of the Boylan Research Fund.



unusual occurrence and diagnostic problem. The interval of time between diagnosis and embolectomy was longer than one would desire; however, this factor was beyond our control.

#### Summary

The treatment is directed at establishing the best circulation possible using vasodilating drugs and lumbar sympathetic block. Heparin and dicumarol therapy should be started early and if bleeding from the incisional wounds is noted, as was in this case, on the second day, one need not be alarmed because it usually is minimal. Spinal pontocaine and intravenous procaine were used in this case as a diagnostic procedure to determine whether the symptoms of the right leg were due to spasm or

embolus. Embolectomy should be performed early, and when in doubt as to whether reflex spasm exists, exploration is mandatory. Applications of heat and cold are contraindicated either prior to or after embolectomy due to increased metabolism of tissue and vasospasm. The legs should be wrapped in sheet wadding postoperatively and kept slightly dependent with a cradle covering them. Amputation should be delayed as long as possible, or until a definite line of demarcation sets in, since most cases are free from infection and the greatest amount of tissue can be saved.<sup>1</sup>

#### Bibliography

1. Cole and Elman: Textbook of Gen. Surg., D. Appleton-Century Co., Inc., p. 132 and p. 226, 1941.

## Kansas Medical Society Annual Meetings

1951

May 14-17

TOPEKA, KANSAS

1952

May 5-8

KANSAS CITY, KANSAS

## Management of Acute Head Injuries\*

Head injuries may be classified as (A) open and (B) closed. Open injuries incur the risks of (1) hemorrhage and (2) wound infection. Closed injuries involve the risks associated with (1) immediate destruction of brain tissue (contusion, laceration, etc.) and (2) progressive damage secondary to (a) cerebral compression due to intracranial hemorrhage or edema, and (b) anoxia resulting from an inadequate airway.

For clarity, the treatment of open and closed wounds will be considered separately, but it is to be emphasized that both often are seen in the same patient and require consideration jointly.

### Treatment of Open Wounds

The proper treatment of *lacerations of the scalp* consists of thorough cleansing, débridement and snug closure. As a first aid measure, a compression bandage should be applied to control bleeding. Externally protruding foreign bodies should not be manipulated. When the patient's general condition permits and adequate equipment is available, the following procedure should be undertaken:

- (1) Shave scalp widely about the wound.
- (2) Cleanse wound with soap and water and irrigate thoroughly with copious amounts of solution (saline or water).
- (3) Infiltrate margins of scalp wound with procaine.
- (4) Remove dirt and excise devitalized portion of scalp.
- (5) Explore skull for fracture.
- (6) If no fracture, close wound snugly in one or two layers with interrupted sutures of non-absorbable material.
- (7) Give antitetanic serum of tetanus toxoid.

Simple lacerations may be closed in the emergency room by a single operator, but it is more satisfactory if the operator has an assistant to compress the margins of the wound to control bleeding.

Where the *laceration overlies a fracture*, surgical correction should be undertaken only in the operating room, for it may be necessary to remove dirt, hair, or debris from the fracture line or to remove bone fragments. One should be prepared to deal with bleeding from the dura and brain.

If the *brain is lacerated* or *foreign bodies are retained* within the brain substance, all macerated brain tissue should be removed, the foreign bodies removed if possible, particularly if they are non-metallic, all bleeding controlled and the dura and

scalp closed snugly. Surgical treatment of these wounds requires experience in brain surgery and special equipment (suction, lighting, electrocoagulation, etc.) With the use of chemotherapeutic and antibiotic agents, it is permissible to defer operative closure of wounds for many hours pending improvement in the patient's general condition and analysis of his neurologic status.

*Leakage of cerebrospinal fluid* from the nose or ear constitutes a special problem. Any cerebrospinal fluid fistula invites the risk of meningitis. Now, with an adequate screen of antibiotic and chemotherapeutic agents, one is justified in waiting 10 to 12 days pending spontaneous closure. If the leak persists longer than this, surgical closure of the fistula should be considered. Some feel that lowering of the spinal fluid pressure to 90 mm. of water by spinal drainage every twelve hours promotes spontaneous closure. Fortunately most fistulas do close spontaneously.

### Closed Wounds

One of the most frequent causes of death after head injury is progressive cerebral damage due to anoxia. Many factors contribute to this:

- (1) The capacity of the contused brain to utilize oxygen is diminished.
- (2) The cerebral blood flow is reduced, even though blood pressure may be elevated.
- (3) The oxygen concentration of the blood is diminished as the result of a disturbed respiratory center and obstruction of the respiratory tract (tongue, mucus, pneumonitis).

The treatment in such cases is the maintenance of an adequate airway and the administration of oxygen. Patients frequently improve remarkably after clearing the airway and administering oxygen. The most satisfactory way of giving oxygen is by nasal catheter. Oxygen tents and masks interfere with attempts to keep the airway patent. Constant nursing attention, with a suction apparatus for the removal of mucus, is necessary. This may be supplemented by postural drainage (head down on face). Tracheotomy is indicated in certain cases.

The *differential diagnosis* between surgical and nonsurgical lesions is of primary importance in the management of acute head injuries and usually depends upon the patient's course. Hence, a carefully taken history, particularly as relates to the onset and duration of unconsciousness, and frequent and repeated neurologic examinations are necessary.

Intracranial clot, such as extradural, subdural or intracerebral hematoma, usually is incompatible with life and requires surgical removal. Most pa-

\*Prepared for the Committee on Trauma, American College of Surgeons, by a special committee of the Harvey Cushing Neurosurgical Society.



tients with these lesions show progressive stupor, convulsions, focal paralyses and disturbance of the vital signs, such as alteration in pulse, respirations, etc. If the patient has been conscious and then loses consciousness, an expanding intracranial lesion is probably present. The lucid interval may be prolonged (days or weeks) with subdural hematoma. If the patient has remained continuously unconscious from the moment of impact, the coma may be due in part to contusion of the brain and in part to an expanding lesion. In such instances, it may be impossible to make a differential diagnosis clinically, and cranial exploration then is necessary if the patient's condition is growing worse.

The *surgical management* of these lesions is not within the scope of this paper.

#### Special Examinations and Treatments

(1) *X-rays.* X-rays of the skull rarely influence the course of treatment, yet the procedure of taking films involves considerable manipulation and wastes time, both of which are detrimental to the ill patient. Hence, it is advisable that x-ray examination of the skull be deferred until such time as the patient is cooperative and his condition stabilized. Attention should always be given to the possibility of injury elsewhere, particularly to the cervical spine.

(2) *Position of Patient.* The position of election is with the head elevated, since this reduces venous congestion. The advantages of this position, however, are far outweighed by the disadvantages which might accrue from an obstructed airway, and if the patient's airway cannot be kept completely open with the head elevated, this position should be changed to one which best promotes an adequate airway.

(3) *Shock.* Surgical shock (peripheral vascular collapse) is rare in head injuries per se, but, when present, the usual measures (Trendelenburg position, intravenous fluids, heat, etc.) should be employed. Shock usually indicates associated injuries and demands primary consideration.

(4) *Fluid Balance.* In an effort to reduce or limit cerebral swelling after head trauma, certain writers have advocated rigid dehydration by withholding fluids, administration of hypertonic solutions intravenously, the use of magnesium sulphate enemas, etc. Rigid dehydration does harm rather than good to an ill patient, as the other vital body functions are interfered with. Fifteen hundred to 2000 cc. daily are necessary to keep the patient in fluid balance.

It is necessary in this connection to keep close watch upon the protein metabolism. Coma, stupor and prolonged confusion often result from protein depletion and can be prevented or corrected by the

administration of protein hydrolysates, plasma or whole blood. If coma is prolonged, gastric feedings by nasal catheter are indicated, using a high protein diet.

(5) *Spinal Puncture.* Considerable controversy prevails concerning the indications for and the merit of spinal puncture in the diagnosis and treatment of head injuries. Some advocate daily spinal punctures as routine in the treatment of head injuries, but this is not generally accepted. The authors of this bulletin consider the indiscriminate use of spinal punctures dangerous. The following are considered proper indications for spinal puncture.

#### (A) Diagnostic—

- (a) To determine pressure where intracranial clot is suspected.
- (b) To determine the presence and/or degree of bleeding.

#### (B) Therapeutic—

- (a) To lessen intracranial pressure by withdrawing fluid as a temporary expedient pending measures that provide more lasting control of increased intracranial tension, such as surgical evacuation of clot.
- (b) Evacuation of bloody fluid when signs of meningismus appear, usually four to eight days. Evacuation of fluid at this time usually relieves headache and speeds recovery.

*Technique.* When indicated, a spinal puncture should be done with the patient in the lateral recumbent position, using a standard spinal puncture needle.

The operator should make the following determinations: color of the fluid, initial pressure, final pressure and the amount withdrawn.

Jugular compression tests should not be carried out unless one suspects injury to the spinal column. These tests give no information of value with reference to the brain, and the sudden rise in spinal fluid pressure which follows jugular compression may be harmful after head injury.

Spinal puncture should not be attempted if the patient is uncooperative, for the information obtained is unreliable, and struggling against resistance may be harmful.

(6) *Control of Restlessness.* Patients who are restless and confused constitute a difficult nursing problem, and sedative medication may be necessary. Paraldehyde administered rectally or barbiturates—sodium amytal, sodium luminal—intramuscularly or intravenously are satisfactory. The latter are particularly indicated for the control of convulsions. Morphine and codeine are contraindicated because of depression of respirations, edema of the larynx, and

alteration of pupils (diagnostic).

(7) *Convalescence*. Early ambulation is recommended after head injury. The patient should receive physical therapy in the form of active and passive exercises early and should be gotten out of bed into a chair as soon as he is able and willing to cooperate. Prolonged bedrest is conducive to traumatic neurosis.

Lacerations of the brain, such as are associated with depressed fractures and penetrating wounds, are frequently followed by a convulsive disorder.

These patients should be given anticonvulsive medication for a period of several months after injury. The drug of choice is Dilantin Sodium gr. 1½ three times daily.

Many patients complain of residual headache, particularly in the posterior part of the head, and of dizziness. These symptoms generally are classified as posttraumatic neuroses. Recent observations indicate that they may result from trauma to the cervical roots and at times are relieved by cervical traction.

### A Good Citizen Votes

Several medical societies have checked voting records to find out how many of their members cast ballots in the last election. The results, showing a high percentage of physicians who neither registered nor voted, indicate that professional men do not always accept their responsibility as citizens.

Matters affecting health come before every unit of governmental authority. It is important that physicians interest themselves in local, state and national elections. Those who are not registered for the November elections should do so now. Every good citizen votes.



# Emergency Gastrectomy for Massive Hemorrhage From a Duodenal Ulcer—A Case Report

Edward S. Brinton, M.D., and Harold W. Palmer, M.D.

Wichita, Kansas

A review of the literature on the treatment of bleeding peptic ulcer is apt to confuse anyone. At least, one realizes that there are few pathological conditions about which there are so many controversial ideas as to best treatment. It is reasonable to assume that no one method, whether it may be conservative starvation, frequent feedings, transfusions, or early surgical intervention is applicable to each and every case. Each bleeding ulcer must be clinically evaluated and given the most appropriate therapy at the time. According to various authorities 10 or 15 per cent of conservatively treated patients having a massive hemorrhage from ulcers die. Heuer reports a group of 73 cases in which two patients died without surgery; nine were operated during active hemorrhage with seven recoveries and two postoperative deaths.

It is, therefore, feasible to think that there is a group of properly selected cases who should be operated early. Lewison reports a series of 82 patients who were treated surgically for massive hemorrhage at Johns Hopkins; of these, only three were operated less than 48 hours after onset of bleeding, and 12 patients were considered early, with operations from the third to the eighth day following onset of bleeding. Certainly immediate operation is only advisable for the patient with a massive hemorrhage from the ulcer. With this decision such factors as diagnosis, age, degree of shock, blood count, blood pressure, and pulse should be carefully weighed. There is a period of time when transfusions bolster the patient and hemorrhage may temporarily stop; then with another massive hemorrhage the "bottom falls out" regardless of medication.

Diagnosis of hemorrhage from a peptic ulcer may be fairly accurately made by the ulcer history and previous roentgen studies; however, diagnosis may be confused by the presence of esophageal varices or cancer. According to Bulmer 89 per cent of acute gastric hemorrhages are caused by ulcers. It is a fact that massive hemorrhage in patients past 50 are more likely fatal, as arteriosclerotic vessels are less likely to contract; also other complicating factors such as anemia, cardiac disease, etc., may be present. Allen and Benedict reported that 60 per cent of their fatal cases died during the first episode of bleeding.

## Case Report

A. J., a 57-year-old white woman, was admitted

to the hospital at 3:00 p.m., complaining of hematemesis and frequent tarry stools. The patient gave a history of chronic indigestion and epigastric pain over a period of four years. She stated she had taken lots of soda bicarbonate but never had been treated for ulcers. Pain was intensified when she became hungry and was relieved by taking food.

The onset of her present illness was almost a month prior to admission, at which time she began to have epigastric distress and would not eat. The pain became persistent and was not relieved by medication. Stools were normal. Two hours before admittance, the patient experienced a severe epigastric pain, vomited blood and then passed a loose tarry stool. This was repeated and she gradually became comatose, whereupon she was brought to the hospital.

On admission, she was extremely pale; pulse 130, weak and thready; blood pressure 90/40; other physical findings were essentially negative except for a slight degree of rigidity in epigastric region and with tenderness in that area. The red blood count was 2,019,000; hemoglobin 35 per cent; urine essentially negative. Patient was given 500 cc. of blood on admission and Meulengracht feedings at three-hour intervals with sodium luminal gr. two for sedation. Temperature rose to 102 degrees Fahrenheit; pulse remained at 124; blood pressure was 100/60 until next morning when she was again given 500 cc. of blood. At 1:00 p.m. she vomited bright red blood and a short time later had a large black liquid stool. She complained of being very weak. Another 500 cc. of blood was given. Pulse was 136 and thready; blood pressure 80/50. For the fourth time 500 cc. of blood was started and the patient vomited bright red blood which again was followed by two loose red stools. She was in shock and received the last Sacrament of the church. Because of her poor response to medication, emergency surgery was deemed advisable.

Procedure: A right upper rectus incision was made, the abdomen explored and an ulcer was felt just distal to the pylorus on the posterior surface of the duodenum. The ulcer was thought to be approximately two cm. in diameter and mobile. Upon mobilization of the stomach, adequate duodenum was present to resect below the ulcer. No difficulty was encountered in getting a good closure on the duodenal stump with three suture lines. Because of the condition of the patient, and time being a

factor, the jejunum was brought anterior to the colon, making an anterior polya type anastomosis with the stomach. Approximately two-thirds of the stomach was removed. The abdomen was closed without drainage, using chromic 0 and chromic 1 catgut and two figure of eight-tension sutures through the fascia. Total time for the operation was two hours and 15 minutes with the patient receiving 1,000 cc. of blood and 500 cc. of plasma.

Anesthetic agent was nitrous oxide and ether with three cc. of curare intravenously. Patient's pulse was 120; blood pressure was 102/68 upon returning to room. Levine tube was put in stomach; oxygen was given, also penicillin; and a total of 2,500 cc. of fluid containing amino acids and vitamin C was given intravenously daily. Blood pressure stabilized at approximately 120/70 and pulse at 100 within 24 hours after operation. Postoperative course was uneventful. Patient had received a total of 3,500 cc. of blood since admittance. Ten days following surgery, red blood count was 4,200,000 with hemoglobin of 75 per cent. She was dismissed two weeks following admission.

Pathological report revealed a three cm. duodenal ulcer with the open end of a small artery on the edge of the ulcer site. No malignant changes were present microscopically. See Figure 1.



Figure 1. Resected stomach and duodenal ulcer with eroded bleeding vessel marked by arrow.

Discussion: Early surgery certainly is indicated only in a small percentage of massively bleeding ulcers and as previously stated this decision is only

made after evaluation of the response to medical management and consideration of the factors of age and general physical condition. In the above case, resection of the ulcer was no problem; however, many of the massively bleeding ulcers located low on the posterior duodenum, adjacent to the pancreas and supplied by a branch of the pancreaticoduodenal artery, are more difficult to handle. In the quiescent ulcer or slowly leaking ulcer it is not necessary that removal of the ulcer be done when in this low lying position, as deviation of the intestinal content and discontinuation of the gastric acidity promote rapid healing. However, in the massive hemorrhage the bleeding point must be ligated. If excessive removal of the duodenum is attempted to get beyond the ulcer then adequate closure of an edematous devascularized stump presents a very important problem, not to mention the hazard of cutting the common duct. In this low lying ulcer it is probably safer to open the duodenum anteriorly with direct ligation of the bleeding point or involution of the duodenal mucosa by careful dissection. A Levine tube may then be placed through the stomach and left temporarily in the proximal loop of jejunum as a safety factor against back biliary pressure.

#### Summary

The case presented is one of massive hemorrhage from a duodenal ulcer which was treated surgically 34 hours after the onset of bleeding. Only a small percentage of bleeding ulcers should be operated early during active bleeding, and then with due consideration to physical condition, blood count, degree of shock, blood pressure, pulse, and age.

#### Bibliography

- Allen, A. W., and Benedict, E. B.: Acute Massive Hemorrhage from Duodenal Ulcer, *Ann. Surg.* 98:736-748 (Oct.) 1933.
- Finsterer, H.: Operative Treatment of Severe Gastric Hemorrhage of Ulcer Origin: Reply to Critics, *Lancet* 2:303-305 (Aug. 8) 1936; Surgical Treatment of Acute Profuse Gastric Hemorrhages, *Surg., Gynec. & Obst.* 69:291-298 (Sept.) 1939.
- Gordon-Taylor, G.: The Present Position of Surgery in the Treatment of Bleeding Peptic Ulcer, *Brit. J. Surg.* 34:336-345 (April) 1946.
- Heuer, G. J.: The Surgical Aspects of Hemorrhage from Peptic Ulcer, *New England J. Med.* 235:777-783 (Nov. 28) 1946.
- Lewison, Edward F.: Bleeding Peptic Ulcer, *Arch. of Surg.* 59:37-56.
- Walters, W., and Taylor, E.: Gastric Resection for Duodenal Ulcer, *Arch. of Surg.* 57:697-698.
- Walters, W., and Cleveland, W. A.: Results of Partial Gastrectomy for Bleeding Duodenal, Gastric, and Gastrojejunal Ulcer, *Ann. Surg.* 114:481-497.
- Wangensteen, O. H.: Problem of Surgical Arrest of Massive Hemorrhage in Duodenal Ulcer: Technique of Closing Duodenum. *Surgery* 8:275-288 (Aug.) 1940.



## PRESIDENT'S PAGE

Dear Doctor:

## OUR POSTGRADUATE OPPORTUNITIES

With the advent of fall, vacations are over and we as an organization begin our real work of the year. One of the most important phases of that work is postgraduate education. We are indeed most fortunate in Kansas to have so many good conferences, programs, and courses within our easy reach.

The Kansas City Southwest Clinical Society holds its annual meeting October 2 through October 5. This is one of the most popular conferences with Kansas doctors, and justly so. Aside from the well balanced scientific program, Whitaker and Baxter of the A.M.A. will be there this year to give us up-to-the-minute news on our national problems.

Circuit courses sponsored by our committee on Postgraduate Medical Education, in cooperation with the faculty of the School of Medicine of the University of Kansas, are again being offered this winter and coming spring. These are brought so close home that no one can fail to give his support. Practical refresher courses are constantly being offered at our University Medical Center. Our committee on Control of Cancer will again present a mid-winter two-day program, and our committee on the Study of Heart Disease will have two conferences during the fall and winter. The first of these will be held in Emporia in October. Our committees are a joy and satisfaction to your president and to the entire society.

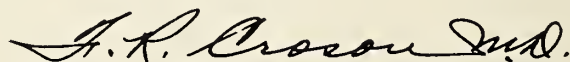
Our neighbors to the south, the Oklahoma City Clinical Society, will present their annual conference on October 30 through November 2. This program is excellent and merits your consideration, and I can assure you that there are a lot of splendid men in our profession in Oklahoma whom we should all know better.

The Southwestern Surgical Congress is presenting an outstanding surgical conference and program at its second annual meeting in Denver, September 27 to 29.

Those of you who attend these meetings regularly need no urging. To those who do not attend regularly, let me emphasize that you are missing a lot. Not only are you missing new and progressive professional knowledge and techniques, but you are missing fellowships and companionships that should be a part of you, your practice and your life.

I hope to see you at Kansas City the first week of October and every month at the circuit courses during the winter and spring.

Sincerely yours,

A handwritten signature in cursive script, reading "A. R. Crocon M.D.".

President.

## EDITORIAL COMMENT

## Our Debt to Jenner\*

The enrichment of the world as the result of Jenner having lived is almost unbelievable. We can appreciate our debt to Jenner as scientific men by recalling the state of the world at the time this great life was spent. He was born at Berkeley, England, May 17, 1749. He was the third son of the Rev. Stephen Jenner, and his mother was a daughter of the Rev. Henry Head. This was about the time when the large land owners in America were expanding and developing their lands through immigration and slave trade. Morgagni, the father of pathology, was beginning to record his descriptions of the anatomy of diseased tissues which was published in 1761 when he was 79. People were dying in prisons for non-payment of debt. Windows were taxed and the poor were caulking up their windows to avoid this tax. The jailers, because they too had to pay this tax, closed the windows of the prisons. David Hume had already (1737) shocked the Christian world with his *Treatise on Humane Nature*, which held that there was no observable "soul" behind the process of thought.

In France the economic condition was such that there was to be a revolution before many years. Eighteenth century England is remembered as the Golden Age of Quackery, made so by the patronage of Queen Anne. Even many of the respected doctors of this time did a little unethical practice by patenting certain formulas.

It was estimated that 60 million people lost their lives annually from smallpox throughout the world in those days. Those who lived were scarred, made blind or were crippled in other ways. It has been said that smallpox followed socialistic philosophy, permitting special privileges to none. The poor, rich, weak, strong, the Indian, Eskimo, Englishman, all were treated alike—mothers would not count their children until they had had smallpox—the young bridegroom prayed for a bride who was not pock-marked. It is easily seen that the one greatest wish of poor humanity at that time was for a preventive for smallpox.

Was this great gift to mankind merely an accident, as the uninformed might assume, or was it a logical development from years of preparation?

If we follow Jenner through the various stages of development, the question will answer itself.

Jenner's father died when the boy was but five years old and he attended schools that had a religious background until he was 13. When eight years old, Jenner was given the preparatory treatment then used before smallpox inoculation. This

treatment included bleeding, purging and starving. It is remarkable that the lad survived the preparatory conditioning, much less the actual inoculation. It has been said that the effect of all this remained with Jenner in the form of fear of sudden noises, and it was probably the reason he retired to a country practice to search for a better cure for smallpox.

An older brother, Stephen, fellow of Magdalen College, Oxford, had a great influence on Jenner throughout his entire life. Stephen had much to do with Jenner's early education, and, when Jenner, at 22 years, was offered the position as naturalist on Captain Cook's second expedition, he refused because he did not want to be separated from his brother Stephen. This offer followed his outstanding work of arranging and classifying valuable specimens of natural history collected by Sir Joseph Banks on Captain Cook's voyage of discovery in 1771. This understanding of natural science led to many renowned discoveries, including the solving of the mystery of the cuckoo nest. Nature interested him and he was always trying to unravel its secrets. This great love for natural phenomena soon found a mutual understanding, for, after six years apprenticeship to a medical practitioner, Jenner went to London to study under that great naturalist and anatomist, John Hunter.

Here we have, in 1770, Jenner at 21; his investigative mind had already pried into the marvels of nature. He had nearly lost his life when inoculated for smallpox, so naturally he was greatly impressed when a country girl, who came to Mr. Ludlow for treatment, told him that she could not take smallpox because she had already had cow-pox.

Jenner's association with John Hunter for two years had such a profound effect upon both that they remained the warmest of friends until Hunter's death separated them. Many of Hunter's investigations were aided or confirmed by Jenner, who was invited by Hunter to join with him in the establishing of a school of comparative anatomy. Jenner declined, preferring to remain a country doctor, but he kept in close touch with Hunter by correspondence over many years, a contact which brought pleasure to them both.

Hunter's great genius for investigation and experiment left its great imprint on Jenner. This respect for his teacher and his friend was shown by his reference to him in later life as the "dear old man." He also attended John Hunter as a physician, diagnosed his illness as angina pectoris and, being the understanding person that he was, did not make this known to his friend for fear it would have an unfavorable reaction. He was, however, a friend

\* By Don Carlos Peete, M.D., Department of Internal Medicine, University of Kansas School of Medicine, Kansas City, Kansas.



of Heberden and he communicated his findings to him. John Hunter's illness began in 1785 and was characterized by attacks described as "spasmodic affections of the face, arms, chest and stomach, and finally, by a violent spasm of the heart, which, after half an hour of agonizing pain, ended in syncope." He died suddenly in 1793 while attending a St. George's Hospital administrative meeting. His death was precipitated by a controversy over the rules for admission of medical students.

This letter written by Sir Everard Home to Dr. Jenner indicates the remarkable understanding Jenner had of John Hunter's illness:

February 18, 1794

"My dear Sir,

"I have sent you by the Major the numbers due to you from the Royal Society. I am well assured that you were sincerely afflicted at the death of your old and most valuable friend, whose death, although we all looked for it, was more sudden than could have been imagined. It is singular that the circumstance you mentioned to me, and was always afraid to touch upon with Mr. Hunter, should have been a particular part of his own complaints, as the coronary arteries of the heart were considerably ossified.

"As I am about to publish a life of Mr. Hunter, which will contain both the symptoms of the disease, and the dissection, I shall not say more about it at present; it will be prefixed to the work on inflammation, and we hope to have it printed by the end of next month.

"I cannot say that I have met with the ossification of these arteries so frequently as other alterations of structure in the heart, but this case is very much in favour of your theory."

While we mention angina pectoris, some more of Jenner's wisdom may be gleaned from a letter written to his friend Rev. John Clinch, who was ill at the time:

February 7, 1789

"... To return, How is your head? I fear but so so. I am still of opinion that the complaint you have so long experienced arises from the blood-vessels, carrying blood to the head, overacting their part; you should certainly try every means to lessen this morbid determination. Your feet and legs should be kept as warm as conveniently may be, for when the vessels of the head are too full, the vessels of other parts are generally too empty; and this occasions coldness. I don't see how heat can arise from any other cause than increased flow of blood upon a part. For example, the degree of heat in the highest state of inflammation is never more than the heat of the blood about the heart. This I have repeatedly ascertained by experiment. I fear you are too free with the use of tobacco; can't you have resolution enough to give it up? Spirits, even

diluted as you drink them, I think, are bad; and so are liquors containing much fixed air, and consequently spruce beer. 'Tis hard to say what you can substitute if you relinquish those things; but you should make a thousand innocent experiments on your constitution, and see if this distressing complaint is owing to any error in your mode of living. How far the state of your stomach is connected with it should be studiously made out. You know it has long been my creed that stomach is the governor of the whole machine, the mind as well as the body. The seat of action is certainly in the brain; but the stomach gives the word of command, and tells it how it shall act. I have taken up a notion, that every one of the large arteries may, in consequence of the stomach being affected in a peculiar way, take upon itself an action quite independent of the heart, except in its number of pulsations."

Jenner for years mentioned the possibilities of cow-pox immunizing against smallpox. So often did he bring the subject up at medical societies that he was threatened with expulsion if he mentioned it again. Finally, in May, 1796, a dairy-maid named Sarah Nelmes became infected with cow-pox while milking. Jenner took what we now know as virus from her and produced the first vaccination by introducing this virus into the skin of the arm of John Phipps. In July of the same year he inoculated John Phipps with smallpox, without the disease having any effect on the boy.

"Very simple," you say, but this idea developed through the long study of the disease transmitted from the horses' hoof to the stable boy, to the cow, and through the dairy-maid, and finally came the realization that the dairy-maid was immune to smallpox.

Jenner later found that cows were susceptible to other diseases affecting their udders and that it was also necessary to obtain the virus at a certain stage of the cow-pox or it would be ineffectual. The fight was long and arduous to get this gift established universally. There were skeptics, quacks, and selfish interests to be overcome. Jenner could have become wealthy and famous by its exploitation, but he declined both to continue his peaceful life at Berkley. His character was such that, in order to save vaccination from the quacks, he went to London to head an institute, with the understanding that he would have full control of the appointments of the men to administer the vaccinations. When his advice was not followed and he was to be used only as a figurehead, he resigned and returned to Berkley.

He received the grateful acclaim of Jefferson, Napoleon, the King of Spain, American Indian tribes, the government of India, the Czar of Russia, and all the world. We, too, should pause with deep

reverence upon the sight of a vaccination scar, in gratitude that Creation made possible the life of Jenner. We and scientific men everywhere would do well to follow in the pattern of life set by Jenner. Thoroughness, loyalty, honesty, investigation, patience, humility, and the feeling that Creation has been planned wisely will help us to repay the debt to Jenner and to his Creator.

---

### The Kansas Plan

The Kansas plan for providing medical care to rural areas has been acclaimed as a brilliant new idea and as an answer to socialized medicine. The large number of physicians and farmers and citizens from all walks of life who developed the program think of it in altogether different terms.

The Kansas plan is no more than an attempt at a practical solution for a problem that has become so enshrouded with emotional intangibles that its practical aspect had largely been neglected. It is original only in the fact that the consumer was invited to assist in the planning. It carries a geographical connotation only because the Kansas Medical Society recognized this need as an opportunity for public service. It has been successful only because all parties have cooperated in the venture.

The migration of physicians from rural to urban communities was not a cataclysmic result of the war but an insidious revolution with origins that can be traced to the turn of the century. Reversal of this trend had been attempted elsewhere through the employment of sentimental and economic inducements, but since the fundamental problem was not recognized those programs failed.

The fundamental problem was nothing more than that the physician and his family did not wish to live under conditions that existed in rural areas. The physician feared professional isolation. His family rebelled at the lack of cultural opportunities. Once that was recognized the problem became simple and the solution assured.

The rural community in Kansas has undergone a metamorphosis. A new standard of living has been substituted for the previous existence. Not only have hospitals been built but school systems have been improved, churches have assumed an increasing vitality, recreational and cultural advantages have been created, the standard of living has been improved, and all of this was done by the community itself.

The Kansas plan then is not primarily a program of supplying physicians for rural Kansas but a coordinated effort to make living in a small community attractive. Those communities that have awakened to this challenge are obtaining physicians. When a town appears progressive and has an air of

being a good place in which to live, the physician wants to locate there. The medical profession has answered the problem of professional isolationism through a series of graduate programs. The community has taken a new pride in its existence. Together they have solved one phase of the medical care problem.

This program is only beginning. The preceptor project at the University of Kansas School of Medicine will interest young men in locating in small communities. The effort of the communities that still need physicians points to the fact that even though this problem can never be erased as solved it will continue through the years to be improved and in this spirit of cooperation the Kansas Medical Society will continue its efforts toward providing a more adequate public service.

---

### Your Patronage is Appreciated

How many times have you heard those words or read them on the back of a sales ticket? "Your patronage is appreciated." That trite phrase has lost its meaning through continued repetition, and has become a glib, perfunctory expression of thanks. But on some occasions your patronage *is* appreciated, and mutual appreciation between two persons or organizations keeps the wheel revolving in an uninterrupted circle.

In this instance we refer to your patronage of Journal advertisers and their patronage of the Journal. Those who manufacture and distribute medical supplies need physicians to buy and use those supplies, and those who buy the items need advertising to keep them informed on what is offered for sale and the conditions under which each drug is effective.

As with all continuing services we've learned to expect as our right, we take for granted the receipt of our Journal each month. To us it is the mouthpiece of the Kansas Medical Society, and we take pride in the publication that we can call our own. But often we fail to remember that the Society publishes its Journal with the help of the companies that pay the bills, the regular advertisers. Without the volume of advertising we now carry, the Journal could not exist in its present form. The number of pages would be restricted, the paper would be of cheaper quality, illustrations would be reduced in size or deleted, and regular features would be omitted. We owe a debt of gratitude to the advertisers who make our Journal possible.

All other factors being equal, we believe that members of the Kansas Medical Society should patronize Journal advertisers when they buy medical and surgical supplies. All products described and pictured in Journal advertisements bear the stamp of approval of the various councils of the A.M.A.,



our guarantee of honest representation of those products. Advertisements for products of questionable merit, or new drugs which have not been adequately tested, are rejected. If you see it advertised in the Journal, you can depend on its quality.

Physicians who have been reading the Journal over a period of years will recognize that many firms now using our advertising columns have been doing so for years. Their support of medical publications has not wavered, though wars and depressions have disrupted their economy as well as our own. We must, in all fairness, patronize the firms that patronize us.

A casual remark to a detail man about one of his products advertised in the Journal will show your interest and will pay dividends in good will. A request for information about advertised drugs will indicate to that firm that copy in the Kansas Journal hits its mark. We do not advocate a synthetic show of enthusiasm—we suggest only an expression of the genuine interest Kansas physicians feel in therapeutic agents. In this way we can tell our advertisers, "Your patronage is appreciated."

### Freedom Crusade

The Kansas Medical Society is honored to have F. R. Croson, M.D., president, elected to the regional council of the Freedom Crusade. This new movement in the defense of democracy will shortly go into action all over the United States. Dr. Croson will sit in on the planning of this group in the midwest area.

The Freedom Crusade is an inspiration stemming from Generals Eisenhower and Clay. On the fourth of September General Eisenhower was the kick-off speaker and called all free people into action against the continued spread of Communism as a way of life. This program is non-official and has no government connection. It is merely an attempt to combat by propaganda the spread of Communism all over the world. It will request financial and personal help from every person in this nation who believes in freedom and, as such, great interest in this program should be taken by the medical profession.

### Penicillin Useful in Cardiac Patients

Administration of penicillin before dental extractions and removal of tonsils and adenoids in rheumatic persons or patients with congenital heart or blood vessel defects, to prevent the possible development of subacute bacterial endocarditis, has been recommended by the American Council on Rheumatic Fever of the American Heart Association.

The text of the statement mentioned that bac-

teria are frequently present in the blood stream for short periods of time following dental extractions and removal of tonsils and adenoids. In rheumatic patients and those with congenital heart disease these bacteria may lodge in the heart valves and cause bacterial endocarditis. The majority of such cases are due to alpha streptococci, usually resistant to sulfa drugs.

The council recommends that operative procedures in susceptible patients be deferred until there is no clinical evidence of rheumatic activity and that patients be free from upper respiratory infection. They suggest also the following minimum dosages: (1) 300,000 units of aqueous penicillin intramuscularly 30 to 60 minutes before operation, and (2) 300,000 units of procaine penicillin in oil injected intramuscularly at the same time in a different site.

The statement includes a suggestion that women with rheumatic or congenital heart disease receive penicillin prophylaxis at the time of delivery and at any time gastrointestinal surgery is required.

### Research Fellowships by A.H.A.

Applications for research fellowships offered by the American Heart Association will be accepted up to September 15, 1950, according to recent announcement from headquarters of that group. Applications for research grants-in-aid, including grants to basic sciences, may be filed up to December 15, 1950. Information and application forms may be obtained from Dr. Charles A. R. Connor, American Heart Association, 1775 Broadway, New York 19, New York.

Ten per cent of the association's research funds, approximately \$45,000, will be available during the year 1951-1952 to support research investigations in basic sciences, even though such investigations are not directly related to the field of cardiovascular diseases.

Fellowships for established investigators may be granted for a five-year period at a minimum stipend of \$5,000 with an annual increase of \$500. They are open to doctors of medicine who are interested in making a career in research.

Research fellowships are granted for a one-year period with a stipend ranging from \$3,000 to \$4,300. They are open to graduates of approved medical schools who are interested in research and intend to follow an academic career.

Grants-in-aid are available to non-profit institutions possessing the requisite basic facilities for research and having the necessary experienced investigators on their staffs. They are designated for a specific program of research.

---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the 13th of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

Melchior Palyi, noted author and economist, having lived 40 years in Europe, is now teaching in the United States. He wrote a scholarly book entitled "Compulsory Medical Care and the Welfare State." His background gave him an excellent foundation for this study. He was a student or an assistant to several of the leading Socialists of the Bismarck era. He also had employment as chief economist and scientific advisor to two of the largest banks in Germany.

Dr. Payli first traces the history of welfare programs and states that this idea was not original with Bismarck. In his day two varieties were already well defined and Bismarck merely gave the welfare state a quasi-democratic twist. Bismarck connected the old autocrats with the coming totalitarians. His was a middle of the road Socialism comparable to that of the New Deal in the United States today.

Once a nation has started down the road of welfarism, anyone who can promise greater benefits and security has every chance of success. This welfare concept in Germany paved the way for Hitler. The ease with which a ruler can use a health program to bring himself into power has prompted many other nations to play with the idea. Most present day plans are styled either after the Bismarck or Lenin schemes, the latter being currently more popular. Bismarck thought of his program as insurance with the people classified according to risk. The Russian scheme spreads the risk evenly across the population, regardless of individual ability to pay. Actually the difference between the two types of plans is one of degree, with the German program more nearly like the Bismarck set-up and Great Britain's and the proposed United States plan more like the Lenin type of security.

Rising costs have been universal in all types of government health programs. The incidence of illness always increases. In France it was 300 per cent, in Germany more than 100 per cent. In addition are the rising costs of bureaucratic administration and political corruption. Administrative cost of the health program is often four-fifths to five-sixths of the total social security administrative costs.

To meet the rising costs, coverage is extended in the hope that new contributors will save the day. This always results in financial disappointment because the newcomers to the program bring more than their share of demands. This presents added costs which must be met with added taxes or poorer service. To go back would be political suicide.

It then follows that the nation curtails the amount paid to physicians. When the doctor is forced to supplement this loss of income, he connives with the patient against his government and immediately the quality of care deteriorates. This may be an unintentional collaboration but it fosters abuse and malingering which defy all efforts at control. It represents a basic imponderable in any national health program.

Health is subjective. Once the patient-physician relationship is disturbed by the intervention of a third party, confidence is destroyed on every side. It then becomes expedient for all parties to take personal advantage of the program. There is no other course a national health program can take.

Dr. Palyi also traces the ideology of these schemes. Prior to World War I it was argued as a solution for those persons who could not take care of themselves. That argument breaks down on the basis that every plan includes a majority that could well take care of themselves and leaves out a minority for charity. Since World War II a new thought has been added, a call for the redistribution of wealth to provide security for all, to equalize the hazards of life between rich and poor. This also represents a fallacy since it presents a new factor of rising costs which tends to retard production and creates an economic hazard for everyone.

Insurance against illness is important but voluntary insurance is infinitely more desirable. National compulsory medical schemes are the entering wedge and the very core of the welfare state. None have provided better care or reduced the financial burden of illness. They have accomplished only one thing, that of placing a group in power.

Compulsory medical care is different from virtually every other branch of social security. Almost all others provide cash benefits. This offers service and materials rather than cash. "Consequently," says Dr. Palyi, "subjective judgment enters into the administrative picture at almost every step, opening the door to arbitrary decisions and to bureaucratic red tape and encroachments, to say nothing of conscious and greedy manipulations. A quest for elaborate and costly management and control arises, of a complexity and an intricacy with no parallel in any other field of social security, pouring its own fuel on the fire of financial trouble."



# Case Report from the University of Kansas Medical Center

## Chronic Cor Pulmonale With Pulmonary Parenchymal and Vascular Disease

### Clinical Pathological Conference

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of medicine, pathology, roentgenology, and the Junior and Senior classes of medical students.

#### Case Presentation

J. W., a 55-year-old white male, was admitted to the KUMC on January 23, 1950, and died on January 27, 1950. The chief complaints were cough with expectoration for 20 years, shortness of breath for one year, and swelling of the abdomen and legs for one week.

In January, 1949, the patient began to notice exertional dyspnea and in July, 1949, this was accompanied by swelling of feet and ankles. He was admitted to KUMC, where he was digitalized and given mercurial diuretics. He was followed in the out-patient department where he received ammonium chloride, digitoxin, and weekly injections of mercurhydrin. One month before admission to this hospital he discontinued the use of digitoxin but took the rest of his medicine. One week before entering the hospital he began to have swelling of his feet and ankles and dyspnea. Three days prior to admission swelling of the abdomen began. On January 23, 1950, he was acutely dyspneic at intervals during the night.

Past history: Patient had influenza in 1918; pneumonia several times; tabo-paresis, which was treated successfully here in 1935. Bronchiectasis was also diagnosed in 1938.

Laboratory examination: Urinalysis was acid in reaction, specific gravity 1.013, albumin one plus, sugar negative, many hyalin casts, and three to six red blood cells per high power field. The red blood count was 4,300,000; hemoglobin 74 per cent; white blood count 3,750; and a normal differential. The Wasserman was negative, Kahn two plus and Kline four plus. The NPN was 40; creatinine 1.2; sugar 67; NaCl 370; CO<sub>2</sub> 51.4. The electrocardiogram on January 24, 1950, showed complete A-V dissociation or A-V nodal rhythm, and on January 27, 1950, showed A-V dissociation with A-V nodal rhythm, ventricular bigemini from two foci and a short episode of ventricular tachycardia.

Physical examination: Blood pressure was 140/90. The pulse rate was 100 and regular. Respiration was 24. Fundi demonstrated grade II arteriosclerotic changes. The respiration was rapid and shallow. Moist rales were heard throughout the lungs. Dullness was noted at the bases bilaterally. No murmurs were heard. There was marked distention of the abdomen with a demonstrable fluid wave. The liver was palpable three fingers below the right costal

margin. Three plus pitting edema of the extremities was present.

Hospital course: Upon admission the patient was placed on oxygen, ammonium chloride, mercurhydrin, and aminophylline. He was given ouabain, one cc., or 25 mg., I.V. at noon and ¼ cc. at 9:00 P.M. on January 24, ¼ cc. on the 25th, and ¼ cc. at 12 noon, 6:00 P.M., and 12:00 midnight on the 26th. He also received quinidine, aminophylline in glucose, and demerol. At 1:45 P.M. he expired in extreme cyanosis, which occurred suddenly.

Dr. Delp: Any questions of Dr. Jensen?

Question: Did the patient get any ouabain on the last day?

Dr. Jensen: No, he did not receive any ouabain on the 27th.

Question: Were you pretty certain about the fact that he had been off digitoxin for a month while he was an out-patient?

Dr. Jensen: Yes.

Question: Did he have any vomiting?

Dr. Jensen: Yes.

Question: Did he become orthopneic?

Dr. Jensen: No.

Dr. Delp: How much edema did this man have?

Dr. Jensen: He had massive edema or anasarca.

Question: Did you give mercurhydrin each day that he was in the hospital?

Dr. Jensen: No. He received one cc. mercurhydrin the second and fourth days, the 24th and 26th.

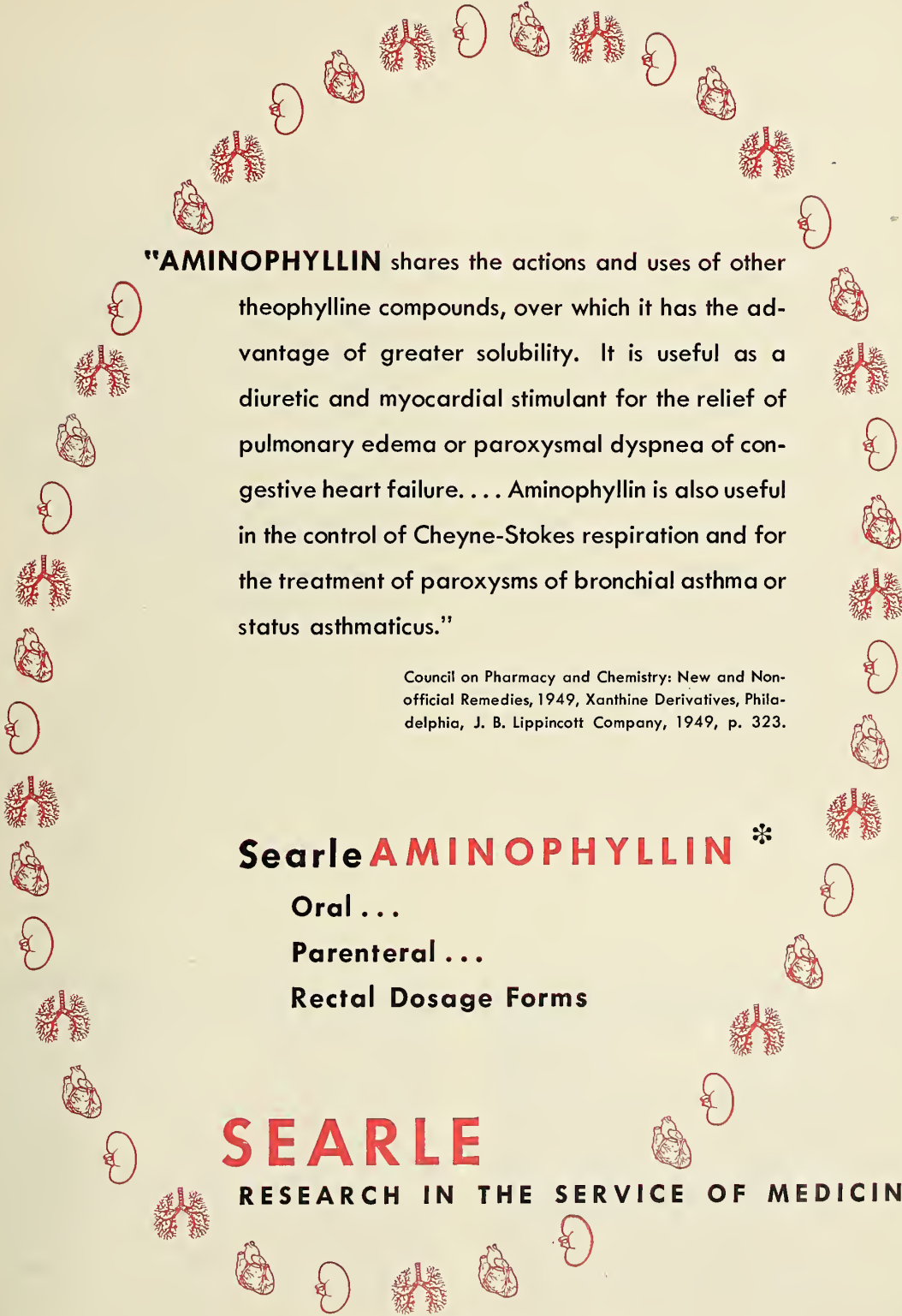
Question: How much urine did he put out while he was in the hospital?

Dr. Jensen: It was not possible to determine this.

Dr. Delp: Dr. Cochran has several electrocardiographic tracings on this patient. Some were taken in the out-patient department and some while he was in the hospital.

Dr. Cochran (Medicine): The first electrocardiogram was taken early in the patient's out-patient activities at which time the chief findings were the presence of sinus rhythm throughout, marked right axis deviation in the standard leads manifested by deep S wave in I and a tall oddly formed R wave in III, and rather sizable P waves. Those are not definitely outside normal limits. The chief abnormality is the marked right axis deviation in the standard leads, and the complete reversal of the QRS complexes in the chest leads which suggests right ventricular enlargement.

The next tracing was taken when the patient was on digitalis, I believe. The QRS complexes



**"AMINOPHYLLIN** shares the actions and uses of other theophylline compounds, over which it has the advantage of greater solubility. It is useful as a diuretic and myocardial stimulant for the relief of pulmonary edema or paroxysmal dyspnea of congestive heart failure. . . . Aminophyllin is also useful in the control of Cheyne-Stokes respiration and for the treatment of paroxysms of bronchial asthma or status asthmaticus."

Council on Pharmacy and Chemistry: New and Non-official Remedies, 1949, Xanthine Derivatives, Philadelphia, J. B. Lippincott Company, 1949, p. 323.

## Searle **AMINOPHYLLIN** \*

Oral . . .

Parenteral . . .

Rectal Dosage Forms

# SEARLE

RESEARCH IN THE SERVICE OF MEDICINE



\* Contains at least 80% of anhydrous theophylline.



throughout the standard chest leads are essentially similar. There is, however, now an arrhythmia present. There are many premature beats, ventricular in origin, and appearing in bigeminal sequence, one after each of the sinus beats.

The first in-patient tracing, about the time of admission, again shows findings of right ventricular enlargement and possibly auricular enlargement.

At the time of the second in-patient tracing a rather complex arrhythmia appears. It is a complete A-V dissociation. This type of arrhythmia occurs in digitalis intoxication. It may occur in various independent forms of heart disease.

The final EKG on the day of death shows complete A-V dissociation with the auricles beating independently, with a relatively slow ventricular rate and the presence of ventricular bigemini. The ventricular beats are rising from more than one irritable focus of the ventricle. This together with the other sequence of events in the EKG is characteristic of advanced digitalis intoxication.

Dr. Tice (Roentgenology): The first chest film was made in 1938, 12 years ago. At that time the heart was within the upper limits of normal. There were fibrotic changes in the medial base on both sides, cystic changes in the base on the left which were due very likely to bronchiectasis. A lipiodol instillation was not done at this time. Between 1948 and January 24, 1950, in three films the heart showed progressive development of the pulmonary outflow tract shadow on all films. The cystic changes in the base persisted. I think that the lung markings indicate fibrocystic changes. Barium demonstrated displacement of the esophagus, which indicates enlargement of the left auricle. His last film also showed generalized cardiac hypertrophy.

Mr. Owen (Student): I think that this patient has chronic cor pulmonale. This disease state is one

in which cardiac strain or more accurately the right ventricle is importantly involved. Manifestations may be grouped as follows: Group one shows underlying cardio-pulmonary disease. Patients show specific signs and symptoms of lung disease, including chronic bronchitis, emphysema, and pulmonary fibrosis. In the second group are those disturbances arising from strain and failure of the right cardiac chamber. These include increased venous pressure resulting in enlarged superficial veins, edema, visceral congestion with palpable enlargement and tenderness of the liver.

Primary cor pulmonale can be classified into three stages, acute, subacute, and chronic. The acute stage applies when obstructions of the pulmonary artery by emboli or relatively rapid thromboses are present. Associated with this are explosive symptoms resembling acute coronary occlusion. Subacute cor pulmonale occurs with rapidly progressive narrowing and obliteration of the pulmonary vascular bed as by a metastatic cancer. In subacute cor pulmonale there is less rapid development of signs and symptoms of right ventricular strain. The chronic type, which we apparently have here, may be caused by mitral stenosis, extensive pulmonary fibrosis, pneumoconiosis, tuberculosis, asthma, chronic bronchitis, or some other pulmonary disease. It is said that death in these cases is usually due to intercurrent infection, usually pneumonia. Some die of congestive heart failure and a few die suddenly of acute circulatory collapse. In acute circulatory collapse the mode of death is that a patient who is fairly comfortable suddenly becomes breathless and panicky, the pulse becomes rapid and weak. With high degrees of pulmonary vascular obstruction there is a reduction in the right ventricle output with consequent reduction in the aortic pressure resulting in a diminished coronary flow.

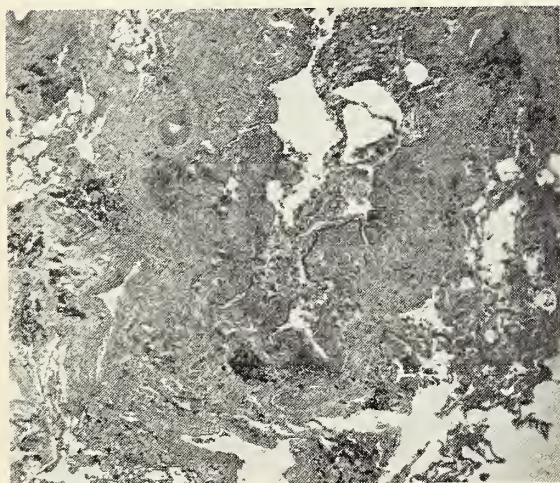


Figure 1. Low power showing bronchiectasis with fibrous thickening of wall, medial arterial sclerosis and emphysema of a few alveoli. x-20.

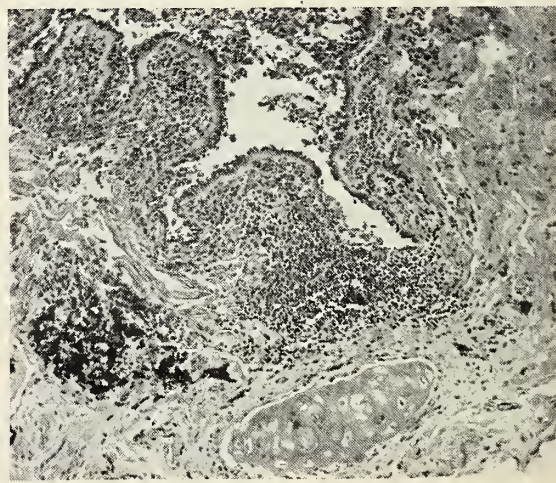


Figure 2. Higher magnification of above bronchus reveals hyalinization of basement membrane, loss of muscularis and infiltration by inflammatory cells. x-100.



# For Safe Symptomatic Relief During the "Late" Hay Fever Season



There are good reasons why many allergists consider "late" hay fever a more serious threat than the Spring and Summer types of seasonal allergy: ragweed pollens cause a greater incidence of hay fever than all other pollens combined; more pollens are in the air during the ragweed season than at any other time; and since "the United States is the favorite habitat of ragweed, it has the dubious distinction of harboring more hay fever victims than all the rest of the world together."<sup>1</sup>

Fortunately, more and more patients each year are enjoying the therapeutic benefits of Neo-Antergan® Maleate. Because of its safe and strikingly effective action in relieving the distressing symptoms of allergy, Neo-Antergan has become a favorite antihistaminic with physicians and patients—in every season of the year.

**Neo-Antergan is advertised exclusively to the medical profession. Your patients can secure its benefits only through your prescription.**

Neo-Antergan Maleate is stocked by your local pharmacy in 25mg. and 50mg. tablets. Complete information concerning its clinical use will be sent on request.

<sup>1</sup>Cooke, R. A.: *Allergy in Theory and Practice*, Philadelphia: W. B. Saunders Company, 1947, p. 186



**MERCK & CO., INC.**  
Manufacturing Chemists  
RAHWAY, NEW JERSEY

# Neo-Antergan®

MALEATE

(Brand of Pyranisamine Maleate)

(N-p-methoxybenzyl-N',N'-dimethyl-N-a-pyridylethylenediamine maleate)





Dr. Delp: What do you think caused this patient's death?

Mr. Owen: My final diagnosis is extensive pulmonary fibrosis, perhaps emphysema leading to chronic cor pulmonale. He had congestive heart failure with both right and left ventricular failure. I think he probably had in addition coronary artery disease with insufficiency.

Dr. Cochran: I think the most likely terminal event was ventricular fibrillation. Having seen in this series of electrocardiograms sinus rhythm, A-V dissociation, ventricular bigemini, and short bursts of ventricular tachycardia, it doesn't take much of a stretch of the imagination to believe we have the maximum degree of ventricular irritability so likely to terminate in ventricular fibrillation.

Dr. Delp: There are several other features of interest here. Following the presentation of the pathological material I would like to call on Dr. Douglas and Dr. Barry to make some further comments about the usage of ouabain.

Dr. Kaul (Pathology): Gross inspection revealed marked generalized edema. Sections through the skin also confirmed the presence of edema. There were approximately five liters of straw colored ascitic fluid in the peritoneal cavity. In each pleural cavity was 100 cc. of straw colored fluid. The lungs were adherent with old fibrous pleural adhesions nearly throughout their extent, bilaterally, particularly in the apices, laterally and posteriorly. On incising the pericardial sac there was about 150 cc. of effusion fluid. The heart was enlarged, weighing 415 grams, and was flabby in consistency. It was dilated as shown by increased measurements of all valvular diameters. The most striking feature of the heart was the thickness of the ventricular wall on each side. The right ventricular wall measured 13 mm. in thickness whereas the left measured 15 mm.

The lungs were increased in weight possibly 30 per cent, the two lungs weighing 1100 grams together. The lobes were adherent by old fibrous adhesions. There was extensive marginal emphysema. Bronchiectasis appeared in both right and left lung bases.

The liver was small, weighing 1050 grams. On cut section it had a congested nutmeg appearance. The kidneys and abdominal viscera were not remarkable.

Our provisional gross diagnoses in summary were bilateral bronchiectasis; marginal emphysema; chronic adhesive pleuritis; hypertrophy and dilatation of the heart, primarily of the right ventricle; and cirrhosis of the liver.

Dr. Boley (Pathology): As Dr. Kaul has indicated, the findings of congestive heart failure were present, especially indicated by the ascites and the central type of liver cirrhosis. What I would like to do for a moment is to develop the cause of this chronic cor pulmonale.

When we consider cases of cor pulmonale, we can break them down into three general sub-heads. These are: 1. Those due to thoracic change involvement, i.e. kyphoscoliosis. 2. Those in which there is primary pulmonary vascular disease, and 3. Those with primary lung disease which in turn increases pulmonary vascular resistance.

In this case, which fits into the third category, I want to show the causes for the hypertrophy of the right ventricle on the basis of the lung. There is not too much activity in the bronchiectasis at the present time. There is fibrosis in the alveolar walls. The pulmonary arteries are thickened. Bronchiectasis tends to cause obliterating arteritis—an increase in resistance to blood flow in the vessel. There is thickening of the intima of the pulmonary arteries evident in the microscopic examination. In this case we have several things as a basis for the cor pulmonale. One of them is the arteriolar thickening, another is bronchiectasis, and finally a certain amount of emphysema.

It has been shown by catheterization of the right side of the heart that in these pulmonary conditions the pulmonary pressure is raised far above the normal.

Dr. Wahl (Pathology): One thing I wish to call attention to is the absence of generalized arteriosclerosis. The aorta was normal. The coronary arteries didn't show a sign of atheroma anywhere, and yet in the pulmonary circulation there were pronounced changes. We usually find these changes in the pulmonary arteries along with systemic changes but in this case the systemic arteries were normal while the pulmonary vessels show the atheromatous changes.

Dr. Delp: Dr. Douglas, will you tell us something about your thinking with regard to the use of ouabain in this patient?

Dr. Douglas (Medicine): In general, I would always oppose the intravenous administration of digitalis. However, I feel that there may be some justi-

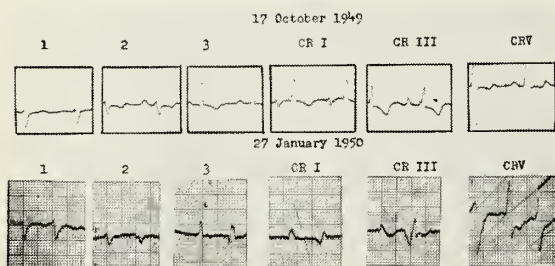


Figure 3. Electrocardiographic tracings indicating the right ventricular strain, right ventricular hypertrophy, and the frequent premature contractions.

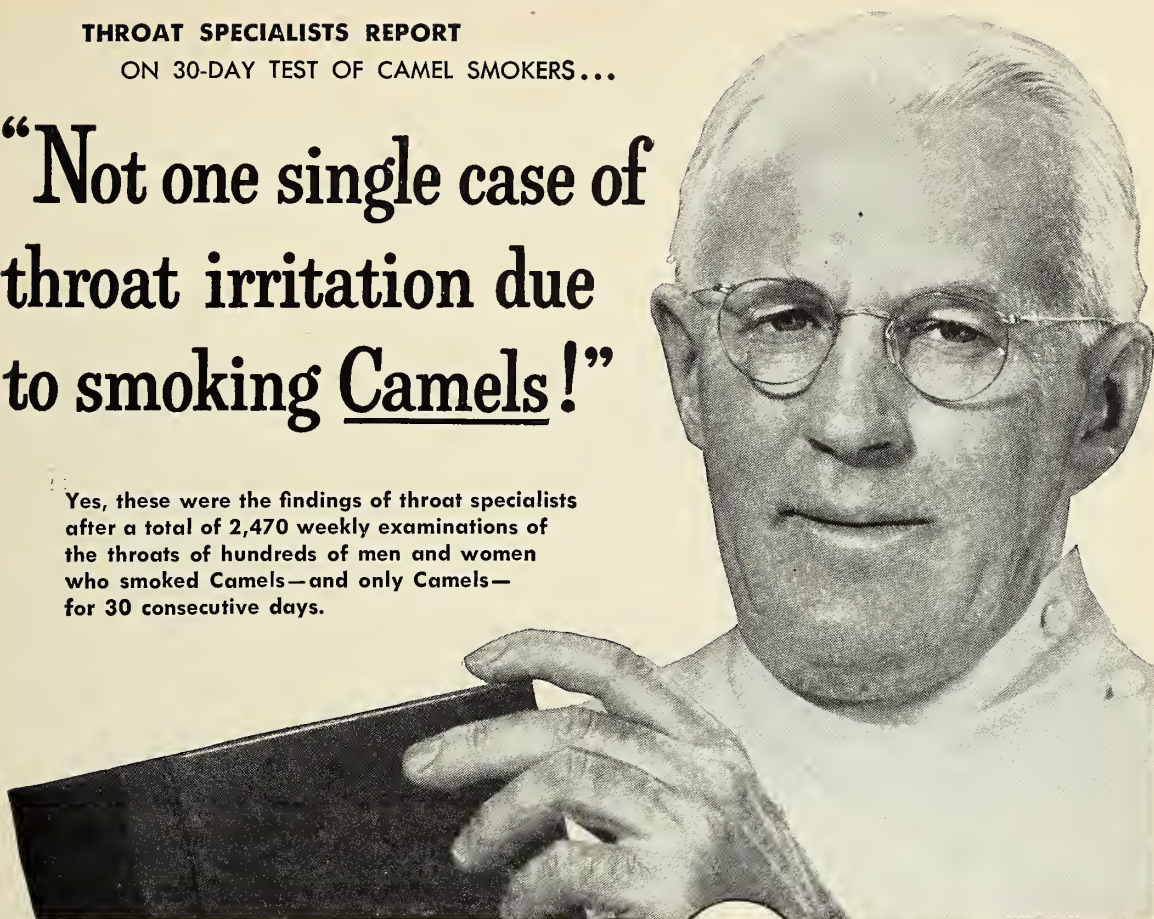


**THROAT SPECIALISTS REPORT**

ON 30-DAY TEST OF CAMEL SMOKERS...

**“Not one single case of throat irritation due to smoking Camels!”**

Yes, these were the findings of throat specialists after a total of 2,470 weekly examinations of the throats of hundreds of men and women who smoked Camels—and only Camels—for 30 consecutive days.



I ENJOYED THE  
TEST—EVERY PUFF OF IT!  
AND MY DOCTOR'S  
REPORT CONFIRMED WHAT  
I FOUND—**CAMELS**  
AGREE WITH MY  
THROAT!

*Ann O'Rourke*  
SECRETARY

R. J. Reynolds  
Tobacco Co.,  
Winston-Salem, N. C.

ACCORDING TO A NATIONWIDE SURVEY:

**More Doctors Smoke Camels  
THAN ANY OTHER CIGARETTE**

Yes, doctors smoke for pleasure, too! In a nationwide survey, three independent research organizations asked 113,597 doctors what cigarette they smoked. The brand named most was Camel.





fication for the use of ouabain in this particular patient. There are very good cardiologists who feel that ouabain is superior to digitalis in certain effects upon properties of the heart. For instance, Dr. Chavez, at the University of Mexico has advocated the use of ouabain for a good many years. He feels it has a decided advantage over digitalis in its effect upon contractility and upon the tone of heart muscle. It does not have the depressive effect upon the sinus node or upon the conduction system that digitalis exerts. He suggests its use particularly in chronic left sided heart failure occurring in older individuals due to hypertension or coronary disease and individuals who do not have tachycardia. He does not advocate its use in those patients who have arrhythmias, particularly auricular fibrillation and fast ventricular rate. His scheme of dosage is 0.25 mg. daily for six days after which he changes them to some oral preparation of digitalis. He makes the statement that a dosage over 0.5 mg. in 24 hours is toxic and should not be given. I don't believe this patient received in excess of that amount—he got somewhat less than that as a matter of fact.

There is one thing we should all remember in giving digitalis. Along with its effect on the muscle tone, contractility, and its effect on conduction, it has one very undesirable side effect. It does increase the irritability of the heart muscle. That danger is increased when we give a patient a full dose of digitalis intravenously. When that course is taken, if we happen to give them a little too much there is no way to get rid of it. Vomiting may be a safety mechanism in overdosage of orally administered digitalis. That is not true with parenteral digitalis. I think the dose given this man would be all right. But I would like to emphasize again the statement I made that with the use of a standard dose of digitalis, you have to give it in small amounts and follow the patient clinically until you feel that he has had enough.

Dr. Delp: Dr. Barry, would you care to comment in regard to the same matter?

Dr. Barry (Medicine): We have found ouabain to be not only an effective drug but usually safe if used in proper doses. The usual dosage that we give is one-fourth of a milligram (.25 mg.) every day and that doesn't vary much from the dosage recommended by Dr. Chavez. One thing we have been emphasizing ever since the strophanthine drugs were first used is not to give it to a patient who has had digitalis recently enough so that he still has some of the effects, particularly the effect of increasing irritability of the myocardium. I think this patient certainly must have had a little bit of increased irritability of the myocardium in addition to that caused by ouabain because he responded to the ouabain as if he had been a digitalized pa-

tient. I don't agree 100 per cent with the indications that Dr. Chavez has given for ouabain. I know that when ouabain is given to a patient with auricular fibrillation with a ventricular rate of 150 or more, his rate will drop remarkably in one hour by the administration of a digitalizing dose of ouabain. Ouabain can be a life saving medicine.

Dr. Delp: My interest in this case began a few years ago at which time I received an electrocardiographic tracing from the out-patient department. The diagnostic data appearing on the requisition said arteriosclerotic heart disease, aortic insufficiency, and lues. On looking at the tracing, you see a perfectly typical example of right ventricular hypertrophy and probable right ventricular strain. At that time the tracing was so interpreted with the suggestion that a further search for the etiology of this patient's cardiac disease be made. The next electrocardiographic tracing came down a week or so later with the diagnosis of cor pulmonale. I mention that simply because cor pulmonale with its implications of disturbed cardiovascular physiology has been properly recognized only in recent years.

One of the reasons for presenting this case is to add justification for electrocardiography. The electrocardiogram has been criticized considerably because of the undue, unnecessary, and perhaps harmful influence it has upon some internists. Here is a situation in which the electrocardiogram actually made the correct diagnosis—the machine made the diagnosis—and secondly, the electrocardiogram probably should have guided therapy. I think the clues to be seen on the second and third electrocardiographic tracings indicate quite clearly what happened to this patient. He unquestionably died of a rhythmic crisis, at least there is strong evidence of such. The reason why he had this crisis might be summarized in these comments.

First of all, this man certainly had an unusual degree of cyanosis at various times. He probably had a poor ability to pick up oxygen because of his primary pulmonary disease. He likewise probably had difficulty in releasing carbon dioxide for the same reason. Both factors probably increased the degree of irritability which his heart manifested. As you have seen from earlier electrocardiograms, he developed marked irritability with the use of digitoxin. The part ouabain played in the terminal episode of myocardial irritability is conjectural, but it may have been considerable.

#### Summary

A case successfully treated for central nervous system syphilis and followed for a period of 15 years finally succumbed during an episode of congestive heart failure secondary to bronchiectasis,

# SPERMICIDAL TIME



To be completely safe, a reliable contraceptive must exhibit the highest spermicidal power possible . . after dilution. In Koromex (jelly or cream) you have the fastest spermicidal time measurable . . when tested . . according to the Brown & Gamble technique representing a 1:10 dilution.

ACTIVE INGREDIENTS: BORIC ACID 2.0% OXYQUINOLIN BENZOATE 0.02% AND PHENYLMERCURIC ACETATE 0.02% IN SUITABLE JELLY OR CREAM BASES



## KOROMEX

®

A CHOICE OF PHYSICIANS



HOLLAND-RANTOS COMPANY, INC. • 145 HUDSON ST., NEW YORK 13, N. Y.

MERLE L. YOUNGS

P R E S I D E N T



emphysema, and pulmonary vascular disease. Symptoms, signs, and pathological findings fit the requirements for the diagnosis of chronic cor pulmonale.

The electrocardiogram proved of definite assistance in suggesting the correct diagnosis as well as guiding in the patient's therapy with digitalis.

Finally, marked myocardial irritability of the heart muscle resulted in a rhythmic disturbance terminating in death.

## SERVICE NOTES

This column will be devoted to service news, information of a personal and general nature concerning medicine and the armed forces. Contributions regarding individuals will be welcomed.

\* \* \*

County societies are advised that members entering the armed forces are eligible to receive service memberships, but only upon action by the county medical society. Notice of such action should be sent to the Kansas Medical Society, after which the medical officer will retain full privileges of membership but will be exempt from the payment of dues.

\* \* \*

The Army will call 734 medical reserve officers into active service in September. The Kansas quota is nine. Orders will be received directly from the Kansas Military District and the Fifth Army Command. The Navy quota had not been announced at the time this issue of the Journal went to press. There are 27 physicians currently residing in Kansas who were trained under either A.S.T.P. or V-12 who have served no time with the armed forces. Each voluntary enlistment from this group will reduce by one the number of reserve officers that will be called from this state.

\* \* \*

Medical officers who enlist prior to being called for duty will receive a monthly bonus of \$100 which will continue throughout their periods of active service. This will not be granted to those waiting until orders are received.

\* \* \*

Physicians who served with the Navy during World War II and who did not specifically reject reserve commissions at the time of discharge are currently in the reserves and are eligible for recall to active duty. Officers in the Army of the United States who did not specifically request reserve commissions at the time of discharge are not currently in the reserves.

At press time the Congress is still considering the physicians draft bill. The Senate raised the draft age to 55 years to take in those physicians beyond 45 who did not serve in the last war. What the House may do with this measure is unknown. The A.M.A. has approved such legislation on the grounds that it is unfair to ask veterans of the previous war to return to active service ahead of those who did not serve previously. Legislation currently considered will call government trained physicians with least service first and veterans of World War II with most service last.

\* \* \*

Deferment may be granted medical reserve officers to complete one year of intern training or their last year of residency training. It may be obtained by medical reserve officers who are pursuing a full-time postgraduate course of instruction in medicine, those whose teaching or research is considered necessary to the maintenance of national health, and those residing in communities the health of which would be unduly jeopardized if such officers were to be ordered to extended active duty. No Procurement and Assignment program is currently contemplated. Deferments, if granted, will be based on decisions made by the branch of the armed forces issuing the call.

### Kansas Story in Look Magazine

A story on medical education and medical practice in Kansas was published in the August 29 issue of Look Magazine, giving more national publicity to the operation of the Kansas Plan, which has already received recognition in other nation-wide mediums.

The article in Look is entitled "How Kansas Finds Country Doctors," and tells of the plan to give each senior student at the University of Kansas School of Medicine practical experience in medical work in rural communities. One of the requirements for graduation is that the student spend 11 weeks in field training with a physician in a Kansas town of less than 2,500 population. The article describes the experiences of one student, Russell Bridwell, who is now having that education under the preceptorship of Dr. Homer J. Williams, Osage City. Numerous pictures illustrate the article.

The wise doctor has always considered his patient as a man or woman who is suffering from, say, a growth or a tuberculous infection, rather than the uninteresting container in which some morbid process happens to be placed.—*Norman B. Capon, M.D., British Medical Journal, April 15, 1950.*

# from *head* to *toe*

CEREVIM-fed children showed greater clinical improvement, in the following nutrition-influenced categories, than children fed on ordinary unfortified cereal or no cereal at all:<sup>1</sup>

- hair lustre
- recession of corneal invasion
- retardation of cavities
- condition of gums
- condition of teeth
- skin color
- skeletal maturity
- skeletal mineralization
- \*blood plasma vitamin A increase
- \*blood plasma vitamin C increase
- subcutaneous tissues
- dermatologic state
- urinary riboflavin output
- musculature
- plantar contact

*Here's why:* CEREVIM is not just a cereal.

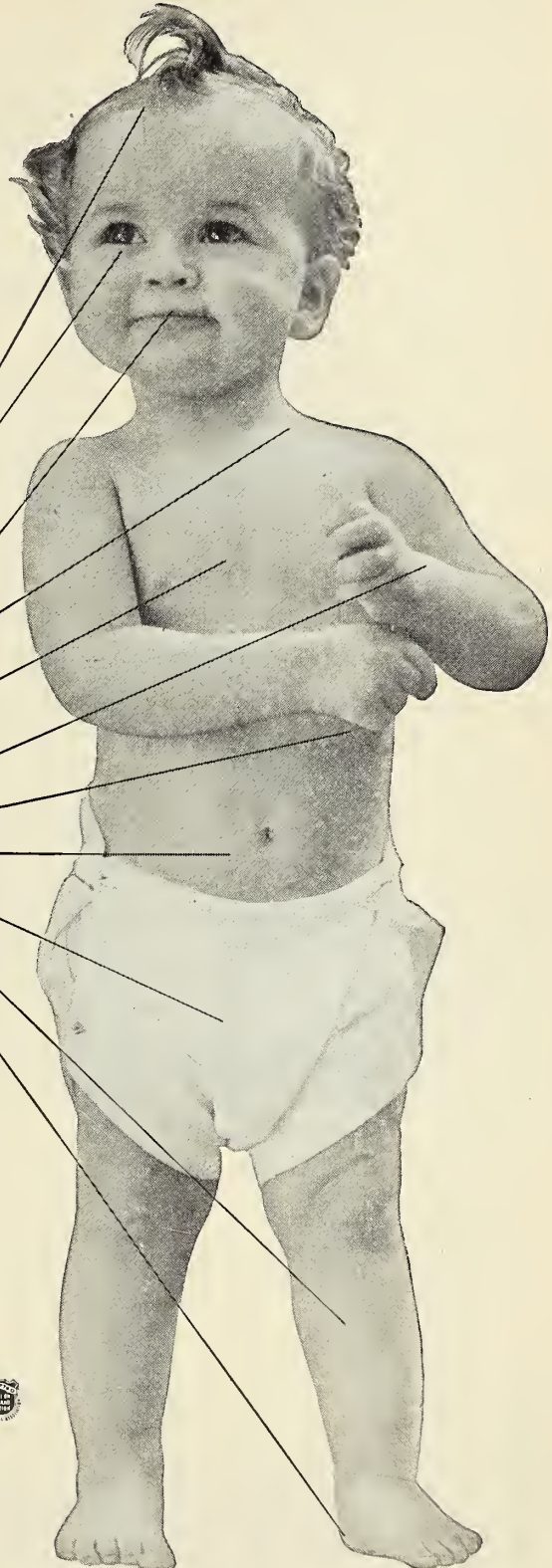
*Much more:* CEREVIM provides 8 natural foods: whole wheat meal, oatmeal, milk protein, wheat germ, corn meal, barley, Brewers' dried yeast and malt — PLUS added *vitamins* and *minerals*.

# CEREVim

**CEREALS + VITAMINS + MINERALS**

1. "A Study of Enriched Cereal in Child Feeding" Urbach, C.; Mack, P. B., and Stakes, Jr., J. Pediatrics 1:70, 1948.

\*Cerevim contains neither vitamin A nor C but possibly exercises an A-and-C sparing effect attributed to its high content of protein and major 8 vitamins.





## ACTIVITIES OF MEMBERS

Dr. O. E. Stevenson resigned last month as superintendent of the State Hospital for Epileptics, Parsons, although he will remain on the staff. Dr. Guy Cramer, Parsons, will serve as clinical director and members of the Labette County Medical Society will serve as consultants at the hospital.

\* \* \*

Dr. George E. Burket, Jr., Kingman, has been appointed chairman of the Educational Committee of the American Academy of General Practice for the state of Kansas.

\* \* \*

Dr. Franklin D. Murphy, Kansas City, was dedicatory speaker at the opening of the new \$900,000 Pratt County Hospital, August 6. Dr. F. R. Croson, Clay Center, president of the Kansas Medical Society, also took part in the program.

\* \* \*

Dr. L. R. McGill, Great Bend, returned last month from a trip to Europe. While there he attended the World Cancer Congress in Paris and the meeting of the International Congress of Radiology in London.

\* \* \*

Dr. E. C. Petterson, Plainville, announces that Dr. Rex C. Belisle is now associated with him in practice. Dr. Belisle is a graduate of the University of Kansas School of Medicine and recently finished his internship at the U. S. Naval Hospital in Oakland, California.

\* \* \*

Dr. E. L. Cooper, Wichita, spoke on "What Socialized Medicine Will Mean to Circus People," at a meeting of the International Historical Society of Circuses in Chicago last month. Dr. Cooper has long been interested in circus people since he trains circus horses as a hobby.

\* \* \*

Dr. William Menninger and Dr. Karl Menninger, Topeka, spoke over radio station WIBW on August 12 to present one program for the CBS series, "Adventures in Science." They discussed "The Mind and Research."

\* \* \*

Dr. William M. Brewer and Dr. Lloyd W. Reynolds, Hays, announce that Dr. John C. Artman is now associated with them in practice.

\* \* \*

Dr. Donald H. Macrae, Topeka, won the Republican nomination for the office of coroner of Shawnee County at the primary election August 1.

\* \* \*

Dr. Ruth Montgomery-Short, who has been practicing in Wichita, is now at Halstead as assistant

to Dr. E. E. Peterson at the Hertzler Clinic. She is specializing in eye, ear, nose and throat work.

\* \* \*

Dr. O. J. Corbett, who has practiced in Emporia for 47 years, announced his retirement July 1.

\* \* \*

A room in the new addition to St. Francis Hospital, Topeka, will be dedicated to the memory of the late Dr. Thomas A. O'Connor.

\* \* \*

Dr. Paul H. Lorhan, Kansas City, has been appointed state chairman of the blood donor program for the Knights of Columbus.

\* \* \*

Dr. W. E. McKinley, who has been on the staff of the State Hospital in Osawatomie for the past eight years, resigned that position July 15 to go into private practice in Gardner.

\* \* \*

Dr. J. L. Lattimore, Topeka, won the Republican nomination for state representative at the August primaries.

\* \* \*

Dr. W. Stephenson, Norton, was the subject of a feature story appearing in the Norton Champion July 13. The story stressed Dr. Stephenson's value to the community.

\* \* \*

Dr. L. S. Nelson, Jr., Salina, has been a patient at the University of Kansas Medical Center in recent weeks for treatment for endocarditis. He is reported as improving now.

\* \* \*

Dr. and Mrs. Ralph H. Major, Kansas City, will return this month from Europe where they have been traveling for the past six months. Dr. Major has been searching for old volumes on medical history for the library at the University of Kansas Medical Center.

\* \* \*

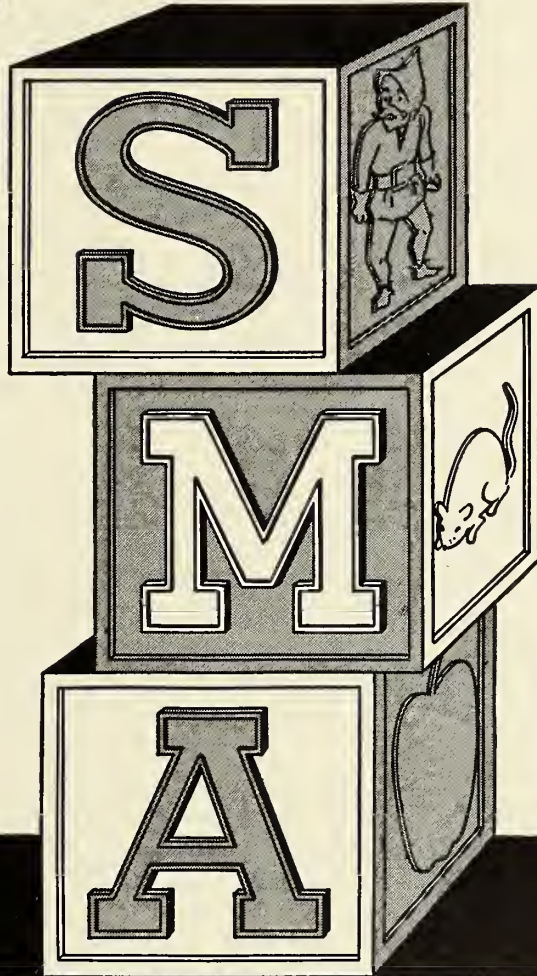
Dr. William L. Valk, professor of urology at the University of Kansas School of Medicine, spoke on "Renal Function Tests" at the recent Postgraduate Urologic Seminar sponsored by the South Central Section of the American Urological Association in St. Louis.

\* \* \*

Dr. Floyd C. Taggart and Dr. William O. Martin, Topeka, announce that Dr. Joseph E. Gootee is now associated with them in the practice of anesthesiology. Dr. Gootee is a graduate of St. Louis University School of Medicine.

\* \* \*

Dr. C. H. Smith, Pittsburg, was elected sous grand chef de train at a meeting of the Kansas 40 and 8 organization at Manhattan last month.



**builds  
husky  
babies**



Ready-to-feed S-M-A® is patterned after human milk. Quantitatively and qualitatively, its content of protein, fats, carbohydrates, essential minerals and vitamins is designed to provide a complete nutritional base for sturdy growth. Many years of clinical experience proves S-M-A is good for all babies.

S-M-A Concentrated Liquid—cans of 14.7 fl. oz.

S-M-A Powder—1 lb. cans.

*Wyeth* Incorporated • Philadelphia 3, Pa.





Dr. C. O. Shepard, Independence, has been appointed medical advisor to the Montgomery County Selective Service Board.

\* \* \*

Dr. D. C. McCarty and Dr. D. M. Treger, Medicine Lodge, now have office space in the new Medicine Lodge Memorial Hospital.

\* \* \*

Dr. Edwin S. Kessler, Topeka, resigned from the staff of the Southard School August 1 to become associated with the Washington Institute of Mental Hygiene, Washington, D. C.

\* \* \*

Dr. Austin J. Adams, a veteran of four and one-half years Navy medical corps service in World War II, has reported to the Navy hospital at Oakland, California, for assignment to active duty. He is the first member of the Sedgwick County Medical Society to be called in this emergency.

\* \* \*

Dr. Jack Grove, Newton, was speaker at a meeting of the Newton Rotary Club August 15. He spoke on orthopedic surgery.

\* \* \*

Members of the Chautauqua County Medical Society won second prize for their float in a jubilee parade at Sedan recently.

### Comic Book Publicity

To reach a segment of the American population that would normally be uninterested in educational reading material or radio programs combatting socialized medicine, the Baltimore City Medical Society has published a 16-page comic book, "The Sad Case of Waiting-Room Willie." In the story Willie, who is really sick, is unable to get care under the system of socialized medicine. The pamphlet closes with a strong plea for the election of candidates who will fight socialized medicine, and suggests a letter and telegram campaign to advise Congressmen that the American people do not want that system of medical care.

Copies of the book are available for inspection on request and may be purchased in lots of 1,000 or more at a cost of three cents each. Requests should be addressed to the Baltimore City Medical Society, 1211 Cathedral Street, Baltimore 1, Maryland.

### Blood Research by Red Cross

Improved methods for separating and preserving blood components of interest in atomic energy research will be sought in a program administered

by the American Red Cross under a contract with the Atomic Energy Commission.

The primary interest of the AEC in blood fractionation studies is the development of means for separation and preservation of white blood cells and platelets, which are two blood components of particular value in combatting acute radiation effects. The Red Cross in its initial studies will administer engineering development of new and quicker methods for obtaining and preserving plasma and red blood cells.

In connection with civil defense planning there is an acute need for development of facilities that can separate quickly large quantities of blood fractions so that stockpiles of blood constituents will be available in the event of atomic disaster. No AEC funds will be used to finance overhead or operating expenses of the Red Cross blood program.

—Patronize Our Advertisers—

## ANNOUNCEMENTS

- September 27—Annual Meeting, American Medical Writers' Association, Elks Club, Springfield, Illinois. Write the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.
- September 27-29—Annual Meeting, Mississippi Valley Medical Society, Elks Club, Springfield, Illinois. Write the Secretary, Dr. Harold Swanberg, 209-224 W.C.U. Building, Quincy, Illinois.
- October 12-14—Course in Postgraduate Gastroenterology, National Gastroenterological Association, Hotel Statler, New York City. Full information from Association, Dept. GSJ, 1819 Broadway, New York 23, New York.
- October 23-27—36th Clinical Congress, American College of Surgeons, Boston, Massachusetts. Headquarters at Statler and Copley Plaza. Full information from A.C.S., 40 East Erie Street, Chicago 11, Illinois.
- October 30-November 1—Postgraduate Course in Psychosomatic Medicine, changed from University of Kansas Medical Center to Winter VA Hospital, Topeka.
- October 31-November 3—Annual Assembly, International College of Surgeons, Cleveland, Ohio. Write International College of Surgeons, U. S. Chapter, 511 Terminal Building, Cleveland 13, Ohio.
- November 6-10—Postgraduate Course in Obstetrics, Gynecology and Pediatrics, University of Kansas Medical Center.
- November 12-13—Seventh Annual Meeting, Southern Chapter, American College of Chest Physicians, Statler Hotel, St. Louis, Missouri.
- December 5-8—American Medical Association Clinical Session, Statler Hotel, Cleveland, Ohio.
- December 11-13—Postgraduate Course in Therapeutics, University of Kansas Medical Center.
- January 8-10—Postgraduate Course in Radiology, University of Kansas Medical Center.
- January 22-23—Sectional Meeting, American College of Surgeons, Statler Hotel, St. Louis, Missouri.
- January 29-February 2—Postgraduate Course in Surgery, including Urology, Orthopedics and Industrial Surgery, University of Kansas Medical Center.
- February 12-14—Postgraduate Course in Public Health and Preventive Medicine, University of Kansas Medical Center.
- February 19-21—Postgraduate Course in Physical Medicine and Rehabilitation, University of Kansas Medical Center.
- March 19-22—Postgraduate Course in Internal Medicine, including Psychiatry and Dermatology, University of Kansas Medical Center.
- April 9-13—32nd Annual Session, American College of Physicians, St. Louis, Missouri. Full information from A.C.P., 4200 Pine Street, Philadelphia 4, Pennsylvania.
- April 16-20—Postgraduate Course in Ophthalmology and Otolaryngology, University of Kansas Medical Center.
- April 30-May 3—Postgraduate Course in Applied Neurology, University of Kansas Medical Center.
- May 14-17—92nd ANNUAL SESSION, KANSAS MEDICAL SOCIETY, TOPEKA, KANSAS.

# 50 and 3

## YEARS TREATING ALCOHOL AND DRUG ADDICTION

In 1897 Doctor B. B. Ralph developed methods of treating alcohol and narcotic addiction that, by the standards of the time, were conspicuous for success.

Twenty-five years ago experience had bettered the methods. Today with the advantages of collateral medicine, treatment is markedly further improved.

The Ralph Sanitarium provides personalized care in a quiet, homelike atmosphere. Dietetics, hydrotherapy and massage speed physical and emotional re-education. Cooperation with referring physicians. Write or phone.

*The*  
**RALPH**  
**SANITARIUM**

*Established 1897*

Ralph Emerson Duncan, M.D.  
DIRECTOR



**529 HIGHLAND AVENUE • KANSAS CITY 6, MISSOURI**

Telephone V1ctor 3624



## THE KANSAS PRESS LOOKS AT MEDICINE

### Partial Answer

The board of trustees of the American Medical Association has approved an expenditure of \$1.1 millions for an advertising program to be carried out next October. The intent of the campaign is to deal a knockout blow to the administration's program for compulsory health insurance.

One can no more criticize the AMA for spending a million to defeat "socialized medicine" than it can blame the AFL and the CIO for raising several millions to defeat Senator Taft for re-election. Group action for political results has become the order of the day.

One can, however, wish that the AMA were somewhat less negative in its approach.

The fact is that too many persons in this country don't get the treatment they should have when they are sick because of lack of doctors, insufficient hospital facilities, or inability to pay. The question is how to provide it for them.

Compulsory federal health insurance may not be the best answer. But it is better than no answer. For a while the AMA had no answer. Presently it is proposing voluntary health insurance, exemplified by Blue Cross and Blue Shield, as the solution.

So far, unfortunately, this is only a partial answer. Partial primarily because too many individual doctors are still unwilling unstintingly to sell, support, and expand the voluntary programs.—*Chanute Tribune*, June 30, 1950.

\* \* \*

### Sense of Duty

Oscar Ewing, head of the vast Federal Security Agency, says it's his duty to lobby for a big federal health program and other expansions of the social security field.

From this it looks as if he has an odd notion of his job. He was chosen to administer his agency, not to promote its expansion and thus enhance his own power.

The FSA embraces the Social Security administration, the Public Health Service, the Office of Education, and several other units. Just keeping them in running order is a pretty big assignment. It's doubtful if the work leaves any legitimate time for propaganda efforts.

There are plenty of other individuals and groups who can argue in behalf of a health program or any other. If Ewing thinks that's his job, then FSA needs a new administrator. — *Winfield Courier*, August 10, 1950.

\* \* \*

### Be Careful About New Isms

There has been a lot of comment lately about

socialized medicine, and some writers are aghast to think that the doctors of the United States dare to stand up and fight the proposed do-all plan.

Here at The News office, we get many magazines and publicity handouts just as every other paper in the country. Many of them, we know, belong to the pink tinted fringe of Americans and others we suspect of coloring their news with a red slant.

It is noticeable to us, that the strongest language against the American doctors for fighting socialized medicine appears in the reddest magazines. But it wasn't until today that we knew why.

This sentence stood out from all others: "Socialized medicine is the keystone to the arch of the socialized state." It is a statement of fact made by a man who knew what he was saying. For that sentence was written by Lenin.

Think carefully before you jump on the band wagon for this or that ism, or for this or that "right" offered by those in power. For with every service given you by your government, you lose another right or freedom. To give something to everyone, it is necessary to regulate everyone. There are many differences between an ideal philosophy and a working principle.—*R.T. in Russell News*, August 11, 1950.

\* \* \*

Created by the 1949 legislature, the rural health program in Kansas, now in its second year, has more than fulfilled the expectations of its sponsors. Of the 127 additional doctors admitted to practice in the state in the past year, quite a number have signified their intentions of starting their practice in the small communities, which was the main objective of Governor Carlson's rural health program. On a long range basis the program will supply the state with the doctors so seriously needed, especially in the rural sections.—*Cheney Sentinel*, August 3, 1950.

\* \* \*

### Misleading Propaganda

One misleading bit of propaganda in favor of compulsory health insurance for this country has its roots in Britain's experience with a scheme which is about the same in principle. It is pointed out that more than 90 per cent of British doctors have registered and are now working under the health act. Therefore, it is argued, the vast majority of British physicians must favor it.

That may seem a sound argument on the surface, but it won't stand analysis. In Britain, it has long been the procedure for doctors, when they wished to settle in some locality, to buy the practice of a doctor who had died or retired. These purchases represented a big outlay—up to twice as much as the annual gross income.

*You will be in perfect balance  
when using Quinton-Duffens  
accurate prescription service.*

*Quinton-Duffens*  
INDEPENDENT  
OPTICAL COMPANY



# KANOX THERAPEUTIC OXYGEN

Oxygen Therapy Regulators  
and Equipment

Anesthetic and Resuscitating  
Gases



## KANSAS OXYGEN

Phone 6392

HUTCHINSON, KANSAS

Box 551



When Britain adopted her national health act, she made the purchase of practices illegal. In order not to rob the doctors, she set up a large fund to compensate for the change. However, the catch was this: To be eligible for compensation a doctor had to enter the medical scheme by a certain date. If he did not, he would get nothing. And so 90 per cent of the doctors registered in self defense.

Distinguished doctors—including British, Americans and others—have made a careful study of the working of nationalized medicine. Almost to a man they have reported a serious decline in the standards of medical care, insufficient time and money given to research and preventive medicine, and that doctors are burdened with so many patients that those who are really ill cannot be properly treated. On top of that, the costs, paid for out of taxes, have been excessive, and have greatly exceeded all estimates.

Socialized regimented medicine, in other words, is second grade medicine for which a big price is paid. And what is true of England would be true of this country if we wish to be a copy cat.—*Winfield Courier*.

\* \* \*

#### Under A Bushel

The doctors of America are rightly concerned about the threat of socialized medicine and are chipping in considerable money to defeat it. Much of their money apparently is spent on high priced public relations experts. Of course it is their money.

But if the physicians are not adverse to taking a prescription from a layman and will try a home remedy to heal themselves, here is an idea they might operate upon the next time they get together for a good scrub-up.

Much of the criticism of private medical practice stems from public ignorance and rumor. This ignorance and these rumors may be blamed on the extreme professional modesty of doctors and also upon the unfortunate tendency of a few big-city MDs to put their art upon the same mysterious level as witchcraft, unsuitable for the common eye.

This ignorance may be dispelled, these rumors squelched not by abstract, generalized, slicked-up handouts to the magazines, radio and the press. The job can be done, free, for nothing, by the doctors themselves in their home town. They can do it by presenting their case in their day-by-day contacts with the public and the press. They can do it not by propaganda but merely by presenting their own side of the story clearly, intelligently, honestly and freely whenever the occasion arises. Possibly, because of their tradition against personal advertising, it might be necessary in each town to select one doctor as a spokesman, an articulate, accessible man.

They merely have to take their light out from under the bushel.—*Salina Journal*, June 29, 1950.

#### Cowley Society Meets

A called meeting of the Cowley County Medical Society was held August 10 at Winfield to make plans for operation of the county health department under a reduced budget. The society adopted two resolutions, endorsing Dr. Y. E. Parkhurst as director of the health department and disapproving the action of the county commissioners in reducing the budget so that the department cannot meet standards of a model unit.

#### Research Building at Medical Center

A major research facility of the United States Public Health Service will be established on the campus of the University of Kansas Medical Center when a building started in July is completed. It is being constructed by the University Endowment Association and will be leased by the federal agency. The research facility will serve the middle west.

A comparatively small public health service unit has been conducting research in the Hixon Laboratory building at the center for several years. Additional space will make possible expansion of service. Public health researchers will be able to conduct first-hand examinations of persons with communicable diseases. Numerous facilities of the school will be available to the public health staff, and public health physicians will serve on the faculty of the school.

#### Sterling Elects Dr. Hiebert

Dr. J. Mark Hiebert, formerly of Kansas, has been named to the newly created post of executive vice president of Sterling Drug, Inc., according to recent announcement by the company. He has been associated with the drug firm since 1934, was named assistant to the president in 1947, and has been a member of the board of directors during the past year.

Nearly a hundred million dollars, representing more than 88 per cent of income, was paid to hospitals by the Blue Cross Plans for care of members during the first quarter of 1950, according to announcement by the Chicago office of the Blue Cross Commission. Only 8.37 per cent was used for operating expenses.

There are now more than 38,000,000 persons enrolled in Blue Cross Plans in the United States and Canada, representing more than 24 per cent of the United States population and 21 per cent of the Canadian people.

## *An Observation on the Accuracy of Digitalis Doses*

*Withering* made this penetrating observation in his classic monograph on digitalis: "The more I saw of the great powers of this plant, the more it seemed necessary to bring the doses of it to the greatest possible accuracy."<sup>1</sup>

To achieve the greatest accuracy in dosage and at the same time to preserve the full activity of the leaf, the total cardioactive principles must be isolated from the plant in pure crystalline form so that doses can be based on the actual weight of the active constituents. This is, in fact, the method by which Digilanid® is made.

*Digilanid* contains all the *initial* glycosides from *Digitalis lanata* in crystalline form. It thus truly represents "the great powers of the plant" and brings "the doses of it to the greatest possible accuracy".

*Clinical investigation* has proved that Digilanid is "an effective cardioactive preparation, which has the advantages of purity, stability and accuracy as to dosage and therapeutic effect."<sup>2</sup>

*Average dose* for initiating treatment: 2 to 4 tablets of Digilanid daily until the desired therapeutic level is reached.

*Average maintenance dose*: 1 tablet daily.

Also available: Drops, Ampuls and Suppositories.

1. *Withering, W.*: An account of the Foxglove, London, 1785.
2. *Rimmerman, A. B.*: Digilanid and the Therapy of Congestive Heart Disease, Am. J. M. Sc. 209: 33-41 (Jan.) 1945.

Literature giving further details about Digilanid and Physician's Trial Supply are available on request.

## *Sandoz Pharmaceuticals*

DIVISION OF SANDOZ CHEMICAL WORKS, INC.  
68 CHARLTON STREET, NEW YORK 14, NEW YORK



## Rexair Traps

### Household Dust in Water

**WASHES AIR, HUMIDIFIES, VAPORIZES, DOES ALL VACUUM CLEANING WORK, AND EVEN SCRUBS FLOORS!**

Water is the secret of Rexair's dust-filtering action. Rexair—and only Rexair—passes the stream of dust-filled air completely through a churning bath of water, discharging clean, humidified air into the room. Rexair direct factory sales and service branches are listed in phone books of principal cities of United States and Canada. Call your local branch or write direct to:

**REXAIR DIVISION, Martin-Parry Corporation**  
 Box 964 MQ 9      ●      TOLEDO, OHIO

➡ **EXCLUSIVE WITH Rexair**

Fully Guaranteed by a 69-Year-Old Company  
 OVER 1,000,000 SATISFIED USERS



## ABSTRACTS FROM CURRENT LITERATURE

### Retinal Venous Occlusion

*Prevention of Retinal Venous Occlusion with Special Reference to Ambulatory Dicumarol Therapy.* By B. A. Klein, *Am. Jnl. Ophth.*, 35: 155-184, Feb., 1950.

The author states that the patients with retinal venous occlusion that have the most favorable results from this therapy are those with a certain amount of narrowing of the venous lumen with an abnormal readiness for thrombus formation. Advancing obliterating sclerosis did not give favorable results.

Subjective signs of imminent retinal venous occlusion are as follows: (1) intermittent visual obscurations or a slight constant reduction of the central visual acuity; (2) complaints of fullness in the head; (3) drowsiness. Objective signs are: (1) engorgement of the venous tree or portions of it; (2) edema of the corresponding sectors of the optic papilla or of the retina along the involved veins; (3) unilateral absence of physiologic venous pulsation in the involved eye; (4) dilation or new formation of very tortuous and thin-walled vessels in one or more places at or near the optic disc.

Anatomical factors as multiple crossings of the same artery and vein or congenital loops and twists should be noted in all still-normal fundi of patients with essential hypertension and diabetes, for this may be the first sign of circulatory disturbance.

Venous stagnation tends to occur in senility with marasmus and low blood pressure, in blood dyscrasias, and during certain phases of arterial hypertension. In the hypertension patient two stages tend to venous retinal stagnation: (1) marked reduction of a previously prolonged high systemic pressure; (2) a sudden diminution of the retinal blood volume by widespread arterial spasm so that the pressure within the central vein is lower than the intraocular pressure, thereby causing the retinal vein to collapse.

Two drugs which may favor thrombus formation are penicillin and digitalis.

The author describes five cases in which dicumarol therapy was used with success. One case had essential hypertension for the past 10 years and moderate generalized arteriosclerosis, constant failure of central vision, fundi signs as described in the above. Dicumarol therapy consisted of an initial dose of 400 mg. with 100 mg. the next three days, which reduced prothrombin level to 49.1 per cent. Two days later 50 mg. was given which was repeated every other day for three months. Prothrom-

bin level was kept between 20 and 25 per cent. Prothrombin determinations were made once a week by the two-stage method (Warner-Brinkhaus-Smith), showing marked improvement in the vision with the central vein returning to normal caliber and a new large venous collateral entering the deeper layers just nasal to the optic disc.

Conclusion was that anticoagulant therapy in retinal venous occlusion should be preventive. Time is given for the development of patent collateral channels and to permit repair of damaged venous endothelium. The length of time over which it is used is of greater importance than a radical reduction of the prothrombin level to 20 to 25 per cent such as is necessary for curative purposes.—D.P.T.

\* \* \*

### Cardio Esophageal Relaxation

*Cardio Esophageal Relaxation (Chalasia) as a Cause of Vomiting in Infants.* By William Berenberg and Edward B. D. Mënhauser, *Ped.*, 5:3, 414-420, Mar., 1950.

Persistent or recurrent vomiting in the newborn period may be due to a variety of causes. The authors have observed 24 patients with repeated vomiting apparently due to persistent relaxation of the hiatal portion of the esophagus with failure of the gastric cardia to perform its usual "sphincter" action. The term chalasia is the opposite of achalasia or cardiospasm. The vomiting is rarely forceful or projectile. It is most likely to occur when the baby is put back into its crib. The mother frequently says that as long as she holds the child it does not vomit. Spinal taps were done on most cases to rule out brain injury. Untreated, the patient either lost weight or gained slowly over a period of weeks.

Diagnosis is made with fluoroscopic examination of the swallow function of esophagus and stomach. The esophagus is larger than usual and gives the impression of being thin-walled and flaccid. There is persistent failure of the "sphincter" action to occur. As a result of this one visualizes the esophagus as a dilated flaccid tube leading to the gastric cardia. With the inspiratory phase of respiration the esophagus dilates further and barium may be seen to enter it from the stomach since there is no mechanism to prevent regurgitation of gastric contents. During the expiratory phase of respiration the filled esophagus is compressed and some barium is regurgitated up into the mouth while some is forced back into the mouth. Drugs did not alter this picture. No change occurred with different formulas.

The patients were relieved by being fed in the semi-erect position, and kept in this position for 30 minutes after feeding. Feedings are thickened with one ounce of cereal to 15 ounces of formula.

**YOUR CUE FOR INFANT FEEDING**

**QUALITY  
ECONOMY  
UNIFORMITY  
CONVENIENCE**

**NORMAL DILUTION**  
**Dextrogen® + Water = Formula**

1 fl. oz. (50 Cals.)	1½ fl. ozs.	2½ fl. ozs. (20 Cal. per fl. oz.)
-------------------------	-------------	---

**Dextrogen**  
 REG. U.S. PAT. OFF.  
**NESTLÉ**  
 COWS' MILK MODIFIED  
 WITH  
 DEXTRINS, MALTOSE & DEXTROSE  
 AND WITH THE ADDITION OF A SMALL AMOUNT OF  
 DISODIUM PHOSPHATE AND IRON SACCHARATE

**EVAPORATED** **HOMOGENIZED** **STERILIZED**

NET WEIGHT 14½ OUNCES  
 EQUIVALENT TO 12.8 FLUID OUNCES  
 PREPARED BY  
 THE NESTLÉ COMPANY, INC., NEW YORK, U.S.A.

**ACCEPTED**  
 COUNCIL ON  
 FOODS AND  
 NUTRITION  
 MEDICAL ASSOCIATION

ADVERTISED TO THE MEDICAL PROFESSION ONLY.

# dorestro

**ESTROGENIC SUBSTANCES**  
 (WATER-INSOLUBLE)

**the name which signifies**

- **CONTROL**
- **UNIFORMITY**
- **MANUFACTURING  
EXCELLENCE**

**COUNCIL ACCEPTED**  
**Dorsey**

**THE SMITH-DORSEY COMPANY • LINCOLN, NEBRASKA**  
 Branches at Los Angeles and Dallas  
 MANUFACTURERS OF FINE PHARMACEUTICALS SINCE 1908



COMPLIANCE with the highest scientific standards, plus years of use by thousands of physicians, have established beyond doubt the dependability of **dorestro** Estrogenic Substances, Water-Insoluble. Supplied in 1 cc ampoules and 10 cc vials in aqueous suspension or persic oil. Units: from 5,000 to 20,000 per cc in oil; up to 50,000 per cc in aqueous suspension.



The infant is kept propped up in his crib by the use of pillows and a harness-like support. He is usually kept in this position throughout the major part of the day and night. Milder cases need to be kept erect only for an hour or two, others need only thickened feedings.—D.R.D.

\* \* \*

### Aureomycin in the Intestinal Tract

*The Effect of Aureomycin on the Bacterial Flora of the Intestinal Tract of Man: A Contribution to Preoperative Medication.* By William H. Dearing and F. R. Heilman, *Proc. Mayo Clinic*, 25:4, 87-102, Feb. 15, 1950.

The object of the investigation was to test the effectiveness of aureomycin in removing the culturable bacteria from the intestinal tract in man, and to compare it, in this respect, with sulfasuxadine, sulfathaladine, and dihydrostreptomycin. One hundred forty-eight unselected hospitalized patients with intestinal lesions, chiefly of a surgical nature, were studied.

Aureomycin, 750 mgm. by mouth, four times a day, for three or three and one-half days, was found to produce sterility or near sterility, and is recommended as the preoperative dosage. Abscess cavities, intestinal fistulas, and obstruction hindered sterilization. Lower dosages of aureomycin were less effective, and combination of the drug with dihydrostreptomycin failed to increase the action.

Sulfasuxadine and sulfathaladine studied separately, in dosages of four gms. six times a day for one day, then two gms. six times a day were less effective to a very definite extent.—T.P.B.

---

## BOOK REVIEWS

---

*Textbook of Anatomy and Physiology: Third Edition.* By Catherine Parker Anthony. Published by the C. V. Mosby Company, St. Louis, 1950. 614 pages, 208 illustrations including 16 color plates. Price, \$4.00.

Recent years have seen a rapidly growing emphasis placed upon the professional education of nurses, physiotherapists, occupational therapists, and to a certain extent, the physical educationalist. It is most difficult to write a single text of anatomy and physiology for all four groups. It is clear that anatomy and physiology should be taught together. In the past, and even today, the two were, or are, being taught separately. This book was designed primarily for nurses, but with supplementary atlases of anatomy it would be admirably suited for the other three groups. Considerably more anatomical material has been added to the third edition, namely: on glands, joints, ears, veins, brain and

autonomic nervous system. Because of its concise style it is admirably adapted for the groups named, especially nurses. There is no extensive material in any chapter which can easily become confusing to those for whom it is written. An excellent plan of outline closely summarizes each chapter with leading questions for discussion and quizzing. The well presented material is accurate.—P.G.R.

\* \* \*

*Practice of Medicine.* By Jonathan C. Meakins. Published by the C. V. Mosby Company, St. Louis. 1558 pages, 518 illustrations. Price, \$13.50.

This is the fifth edition of a text on the practice of medicine which has been rather widely accepted. Dr. Meakins states that the writing of a new edition is becoming increasingly difficult because of the rapid progress of medicine. Because of the tempo of the times, various portions of the text are not as up-to-date as they should be. Several changes have been made. The sparse section on psychiatry has been replaced by one on psychosomatic medicine. Because of the rapid advance in chemotherapy and antibiotics, a chapter has been devoted to this subject to prevent duplication. The chapter on the ductless glands has been largely rewritten. The text is well illustrated and well organized. I would recommend it for the student and practitioner of medicine.—S.J.W.

\* \* \*

*Medical Diagnosis.* By Roscoe L. Pullen. Published by W. B. Saunders Company, Philadelphia. 119 pages, 601 figures, 10 tables, 10 color plates. Price, \$12.50.

Revision of the first edition to keep abreast of medical diagnosis has resulted in the addition of several new chapters, Diseases of Blood, Medical Diagnosis of the Aged, and Examination of the Psychiatric Patient, with deletion of The Sterility Problem, Military Problems, Occupational Injury, and Determinants of Prognosis.

The regional method of presentation has been retained. Contributors to the original sections have made revisions, this being particularly noticeable in the chapters on The Eyes, The Abdomen, and Electrocardiographic Diagnosis which have been completely re-written. A discussion on unipolar leads, incorporating the new terminology and adjuvant diagnostic measures such as liver function tests, examination of duodenal contents, liver biopsies and x-ray studies of the abdominal organs, adds to the textbook.—H.W.V.

\* \* \*

*You and Your Heart.* By Marvin, Wright, Page, Jones and Rutstein. Published by Random House, New York. 306 pages, three illustrations. Price, \$3.00.

## Cook County Graduate School of Medicine

### ANNOUNCES CONTINUOUS COURSES

**SURGERY**—Intensive Course in Surgical Technic, Two Weeks, starting September 25, October 23, November 27.

Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting September 11, October 9, November 6.

Personal Course in General Surgery, Two Weeks, starting September 25.

Surgery of Colon & Rectum, One Week, starting September 11, October 9, November 27.

Esophageal Surgery, One Week, starting October 16.

Breast & Thyroid Surgery, One Week, starting October 2.

Thoracic Surgery, One Week, starting October 9.

Gallbladder Surgery, Ten Hours, starting October 23.

Fractures & Traumatic Surgery, Two Weeks, starting October 9.

Basic Principles in General Surgery, Two Weeks, starting September 11.

**GYNECOLOGY**—Intensive Course, Two Weeks, starting September 25, October 23.

Vaginal Approach to Pelvic Surgery, One Week, starting September 18, November 6.

**OBSTETRICS**—Intensive Course, Two Weeks, starting September 11, November 6.

**MEDICINE**—Intensive General Course, Two Weeks, starting October 2.

Gastro-enterology, Two Weeks, starting October 16.

Gastroscopy, Two Weeks, starting September 11, October 23.

Electrocardiography & Heart Disease, Four Weeks, starting October 2.

**DERMATOLOGY**—Formal Course, Two Weeks, starting October 16. Informal Clinical Course every two weeks.

**UROLOGY**—Intensive Course, Two Weeks, starting September 25.

Cystoscopy, Ten Day Practical Course, every two weeks.

**GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES**

**TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL**

Address: Registrar, 427 S. Honore St., Chicago 12, Ill.

## Deformity Appliances of Quality

### Orthopedic and Surgical Appliances Artificial Limbs

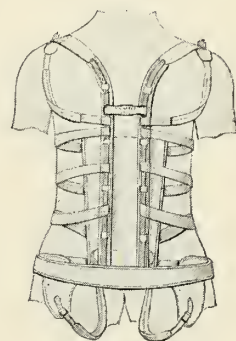
Trusses

Abdominal  
Supports

Elastic  
Hosiery

Foot  
Supports

Surgical  
Corsets



Taylor Back Brace

Made to Order  
In Our Own Factory

**P. W. HANICKE MFG. CO.**

1009 McGee St.

Victor 4750

KANSAS CITY, MO.

# THE Lattimore-Fink Laboratories

TOPEKA, KANSAS

J. L. Lattimore, A.B., M.D., *Director*

A. A. Fink, M.D., *Pathologist*

A. C. Keith, B.S., *Chemist*

H. C. Ebendorf, M.T., *Serologist*

L. A. Hull, A.B., *Bacteriologist*

**PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY,  
HEMATOLOGY AND PARASITOLOGY**

*Containers furnished upon request.*

**OFFICES:**

Topeka, Kan.

El Dorado, Kan.

Sedalia, Mo.

McAlester, Okla.



This book, written by five leading authorities of cardiovascular diseases, clearly analyzes for the layman the various types of heart disease and the many factors which cause cardiovascular disease. The style of writing makes the book easy to read, and every reader, lay or professional, should find it worthwhile. The authors emphasize that the purpose of the book is to acquaint the reader with a better understanding of how the vascular system works in health and in sickness. It is not intended to make possible self treatment or diagnosis. One might question the lack of emphasis placed upon the value of good nutrition in the prevention of rheumatic heart disease and obesity; also the advisability of recommending alcohol, a dangerous, habit-forming drug, when its value as a vasodilator has not been accepted or definitely proven.

It is of interest that Doctor Page permits the moderate use of tobacco for patients with hypertension while Doctor Wright restricts its use in peripheral vascular disease. Doctor Marvin makes the statement, "It is definitely established that for many people with coronary artery disease smoking imposes an unnecessary and undesirable load upon the heart." However, these are points that will be argued for some time among doctors, and both sides of the question should be given to the public.

A chapter on misapprehensions should help clear up many faulty beliefs concerning heart disease. I am certain the statement, "We have no convincing evidence that simpler societies have averted any heart disease either through diet or mode of life," could be challenged by many of our fellow workers who are serving as foreign medical missionaries throughout the world.

The final chapter discusses unanswered questions showing the great need for continued research in solving many of our problems. The objectives of the American Heart Association are presented, and the layman is invited to cooperate with the medical profession through the American Heart Association to help reduce the great economic loss resulting from heart disease.—D.C.P.

\* \* \*

*Cardiovascular Disease.* By Louis H. Sigler. Published by Grune and Stratton, New York. 551 pages, 149 illustrations, 10 tables. Price, \$10.

In a clear, comprehensive manner the author covers the etiology, anatomic pathology, pathogenesis, diagnosis, and clinical manifestations of cardiovascular disease.

Considerable space is allotted to normal anatomic features, physiological principles of the circulatory system, normal objective findings, and psychosomatic aspects of the disease in order to allow the clinician to appreciate the individual in health and disease.

The subject matter is augmented by tables, graphs, schematic drawings, and illustrated by clinical material, roentgenologic findings, photomicrographs, and pathological specimens.

References to current concepts are featured throughout; included are those dealing with heart failure, shock, and hypertension.

A brief chapter presents problems regarding pregnancy and cardiovascular disease, and the final chapter hastily mentions the forms of cardiovascular disease that may add the risk of, or may follow, a surgical procedure.—H.W.V.

\* \* \*

*Scientific Principles in Nursing.* By Esther McLain. Published by C. V. Mosby Company, St. Louis. 410 pages. Price, \$3.00.

This book should prove to be valuable for use in nursing education. Nursing is based on scientific principles, and by having such information condensed into one book the nurse is presented with a complete and understandable picture.—O.Mc.

\* \* \*

*A Textbook of X-Ray Diagnosis, Bones, Joints, and Soft Tissues.* Second edition. Edited by S. Cochrane Shanks and Peter Kerley. Published by W. B. Saunders Company, Philadelphia. 592 pages, 553 illustrations. Price, \$15.

This volume is the first of a set of four to appear as a second edition of a work first published 10 years ago in three volumes. The contributors are all British.

The material is presented in 11 parts and 53 chapters. The 11 major subdivisions are as follows: normal bones and joints, the general pathology of bone, congenital deformities of bones and joints, osteochondritis, static and paralytic lesions, constitutional diseases of bones and joints, tumors and cysts, the soft tissues, localization of foreign bodies. A complete index is supplied.

The material offered is extensive and is concisely presented. Little repetition or wordiness is encountered. The work is richly illustrated with illustrative radiographs, nearly all well reproduced, presented as positive prints. Selection of illustrative material is carefully done so that significant points are illustrated. Where possible, factual and statistical material is tersely presented in tabular form.

Print and arrangement of material are adequate, making for ease of reading. Sufficient information on historical, clinical, histological and laboratory findings is presented to add meaning to the radiographic changes described.

The book is considered up-to-date, readable, and comprehensive. It should be popular with both radiologist and orthopedist as well as being a concise and usable source of information to physicians in other fields.—H.H.D.

## RADIUM & RADIUM D & E

(including Radium Applicators)

FOR ALL MEDICAL PURPOSES

Est. 1919

Quincy X-Ray & Radium Laboratories

(Owned and Directed by a Physician-  
Radiologist)

Harold Swanberg, B.S., M.D., Director

W.C.U. Bldg. Quincy, Illinois

*The Neurological Hospital, 2625  
West Paseo, Kansas City, Missouri,  
a voluntary hospital providing the  
care and treatment of nervous and  
mental patients, and associate condi-  
tions.*

Medical and surgical supplies for Kansas doctors of Medicine and Hospitals

## Munns Medical Supply Co., Inc.

512 Kansas Avenue  
Topeka, Kansas

456 New Brotherhood Building  
Kansas City, Kans.

### PHARMACEUTICALS

A complete line of laboratory con-  
trolled ethical pharmaceuticals. Chemists  
to the Medical Profession since 1903.

KA-9-50

# ZEMMER

THE ZEMMER CO., PITTSBURGH 13, PA.



## THE BROWN SCHOOL

Four distinct units. Tiny Tots through the Teens.  
Ranch for older boys. Special attention given to  
educational and emotional difficulties. Speech,  
Music, Arts and Crafts. A staff of 12 teachers. Full  
time Psychologist. Under the daily supervision of  
a Certified Psychiatrist. Registered Nurses. Private  
swimming pool, fireproof building. View book.  
Approved by State Division of Special Education.

BERT P. BROWN, DIRECTOR  
PAUL L. WHITE, M.D., F.A.P.A.,  
MEDICAL DIRECTOR  
P. O. Box 4008, Austin, Texas

THE  
MEDICAL PROTECTIVE  
COMPANY  
FORT WAYNE, INDIANA

*Professional Protection  
Exclusively  
since 1899*

TOPEKA Office:  
J. E. McCurdy, Rep.  
1160 College Avenue,  
Telephone 2-3027



### Survey of Laboratory Infections

The first comprehensive survey to be made in this country of the incidence of infection among laboratory and research workers is now being conducted with the assistance of a grant from the Division of Research Grants and Fellowships of the National Institutes of Health. The survey is being conducted by Dr. S. E. Sulkin and Dr. R. M. Pike of Southwestern Medical College, University of Texas, who are sending out questionnaires to all governmental and private laboratories handling infectious agents.

The demands of modern medicine require increased numbers of laboratory technicians to handle potent disease-producing agents, both in diagnostic work and in research. As a result significant increases in laboratory infections have occurred, according to reports received by the Public Health Service. From information compiled by the survey the seriousness of the problem can be determined and figures will be available on the number of laboratory infections occurring in persons dealing with diseases such as tuberculosis, tularemia, epidemic typhus, encephalitis and Q fever.

Results of the survey will be presented to the American Public Health Association at its annual meeting in St. Louis, October 30 to November 3.

### Van Meter Prize Offered

The American Goiter Association will award a prize of \$300 and two honorable mentions for the best essays submitted on original work on problems related to the thyroid gland, either clinical or research. Information on the competition may be secured from Dr. George C. Shivers, 100 East St. Vrain Street, Colorado Springs, Colorado.

### CLASSIFIED ADVERTISEMENTS

**DOCTOR WANTED** for rural community. Large thickly populated area, 14 miles to nearest doctor, 16 miles to nearest hospital, 20 miles northeast of Wichita. Write the Journal 31-50.

**FOR SALE**—F. A. Hardy and Co. 1904 ophthalmometer and adjustable stand, Hobart metal cabinet with 27 small drawers and wooden base, treatment chair, examination chair, table cushion, urinary test cabinet, sterilizer, small oak desk and swivel chair and cushion, heat lamp, electric window cooler, instrument table, etc. Write the Journal 32-50.

**FOR SALE**—G. E. Victor x-ray with developing tank and filing cabinet, excellent condition, \$500; Hamilton examining table with matching instrument cabinet, treatment table and sterilizer table, seven chrome chairs with matching table, new microscope, five-ton capacity York air conditioner and many other articles of office equipment. Write the Journal 33-50.

### Index to Advertisers

Abbott Laboratories .....	V
American Meat Institute .....	VI
American Optical Company .....	XVI
Ayerst, McKenna and Harrison, Ltd..	Inside back cover
Birtcher Corporation .....	XII
Borden Company .....	XVII
Brown School .....	455
Camp, S. H., and Company .....	XIII
Coca-Cola Company .....	XIV
Cook County Graduate School of Medicine.....	453
Duncan Laboratories .....	IX
Goetze Niemer Company .....	XVIII
Hanicke, P. W., Manufacturing Company.....	453
Holland-Rantos Company .....	439
Kansas Oxygen Division .....	447
Lattimore-Fink Laboratories .....	453
Lederle Laboratories, Inc. ....	VII
Lilly, Eli, and Company.....	Facing XVIII
Major Clinic .....	XIV
Mead Johnson and Company.....	Back cover
Medical Protective Company .....	455
Merck and Company .....	435
Midland Finance Corporation .....	XVIII
M and R Dietetic Laboratories, Inc.....	441
Munns Medical Supply Company, Inc.....	455
Nestle Company, Inc. ....	451
Neurological Hospital Association .....	455
Parke, Davis and Company..	Inside front cover and III
Philip Morris and Company.....	VIII
Physicians Casualty Association.....	XVIII
Producers Creamery Company.....	XII
Quincy X-ray and Radium Laboratories.....	455
Quinton-Duffens Optical Company.....	447
Ralph Sanitarium .....	445
Rex Sales Company.....	XVIII
Rexair Division, Martin-Parry Corporation.....	449
Reynolds, R. J., Tobacco Company .....	437
Sandoz Pharmaceuticals, Inc. ....	449
Schering Corporation .....	XI
Searle, G. D., and Company.....	433
Smith-Dorsey Company .....	451
Southwest Scientific Corporation .....	456
Squibb, E. R., and Sons.....	XV
Trowbridge Training School.....	XVIII
Winthrop-Stearns, Inc. ....	X
Woodcroft Hospital .....	XVI
Wyeth, Inc. ....	443
Zemmer Company .....	455

Merck & **Mallinckrodt**® Reagents

KLINE TEST ANTIGEN (LAMOTTE)

PYREX LABORATORY GLASS WARE

PIPETTES AND BURETTES

PRECISION EQUIPMENT

HARTMAN-LEDDON SPECIALTIES

LABORATORY SUPPLIES & EQUIPMENT

KANSAS OWNED

**Southwest Scientific Corporation**

122 S. St. Francis

Wichita 2, Kansas

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

OCTOBER, 1950

No. 10

## Recent Experiences with Gastric Malignancies\*

Kenneth C. Sawyer, M.D., and H. P. Marvin, M.D.

Denver, Colorado

It is estimated that 40,000 people die in the United States each year from carcinoma of the stomach. This is an appalling number, to say the least. The reported five-year survival rates, which range from 0 to 6.6 per cent, indicate that the surgical treatment of carcinoma of the stomach leaves much to be desired and presents a vital challenge to the medical profession. Obviously the only solution for this problem lies in an earlier diagnosis which means the recognition of asymptomatic carcinoma of the stomach and a more extensive excision of the cancer bearing portion of the stomach and contiguous organs when the condition is encountered in the operating room.

For the purpose of re-emphasis we shall endeavor to present the following:

1. An evaluation of standard diagnostic procedures used in determining the presence of cancer of the stomach.
2. A discussion of the ubiquitous gastric ulcer problem.
3. Enumeration of the technical improvements that have extended and will continue to extend the operability of carcinoma of the stomach.
4. Illustration of the range of operability by presenting brief case histories.

In evaluating procedures used in the diagnosis of carcinoma of the stomach we are impressed with the fact that the resectability rate and five-year survival rates vary in direct proportion to the number and quality of roentgenograms included in the routine examination of patients. At the present time roentgenologic examinations, including spot films and fluoroscopic studies, are the only methods capable of discovering a lesion that might be a curable gastric cancer although gastroscopy may be helpful in some cases.

Wylie<sup>1</sup> reported a series of fluoroscopic and x-ray film studies on approximately 400 American sol-

diers and 400 German soldiers with gastro-intestinal complaints. These studies revealed one per cent of the German prisoners with carcinoma of the stomach whereas no malignant lesions were demonstrated in the American group. The series of gastro-intestinal roentgenograms on 500 normal persons reported by Dailey and Miller<sup>2</sup> did not reveal any cases of gastric carcinoma, indicating that this is too small a number to be significant. The mass fluoroscopic and roentgenogram study made by St. John, Svenson, and Harvey<sup>3</sup> revealed three gastric malignancies in 2,413 asymptomatic patients in the cancer age group. Mass studies of this nature are significant but they are expensive as well as time-consuming and, to be of value, should be repeated at three to six month intervals. Kirklin<sup>4</sup> points out that 30 per cent of our population or 42,000,000 individuals are past the age of 40 and thus in the cancer age group. He estimates that "it would take 1,917.6 roentgenologists examining a stomach every two minutes for eight hours every day of the year, including Sundays and holidays, year after year continuously to make a satisfactory survey of this group of people every three months." It has been suggested that carcinoma of the stomach be made a public health problem and that government subsidies be used for conducting diagnostic surveys. If this were practical then every lethal ailment should fall in the same category.

The best solution undoubtedly lies in instituting practical criteria for diagnostic study and for surgical exploration. Such a program has been established by Rigler<sup>5</sup> and his co-workers<sup>6</sup> who subject all patients with histamine achlorhydria, pernicious anemia, known gastric polyps, a suspicious family history of cancer or blood in their stools to exhaustive, careful, and repeated roentgen studies.

### Chronic Gastric Ulcer

Special emphasis should be given to the fact that cancer can develop in a chronic gastric ulcer just as it does in a skin ulcer or chronic ulcer in other parts of the body. Differences of opinion exist regarding

\*Read before the Wyandotte County Medical Society, Kansas City, Kansas, April 19, 1949.



whether or not a chronic gastric ulcer becomes malignant or was malignant from the onset. Abrahamson and Hinton<sup>7</sup> have followed 165 cases of gastric ulcer over periods of one to 19 years and have failed to find a single case in which the transformation from a benign ulcer to a gastric neoplasm could be proved. That cancer occasionally develops in a gastric ulcer is generally recognized. We all remember the old but fallacious teaching that if an ulcer was smaller than  $2\frac{1}{2}$  centimeters it was probably benign and if it was larger than  $2\frac{1}{2}$  centimeters it was probably malignant. It is apparent that the percentage of error (10.1 per cent<sup>8</sup> to 19.8 per cent<sup>9</sup>) in mistaking gastric cancer for benign gastric ulcer is greater than the surgical mortality for subtotal gastrectomy. Thus we believe that all gastric ulcers should be considered surgical problems. Whether a lesion is malignant from its onset or has become malignant is not the important factor.

It is also pertinent to recall the following figures, namely—that lesions of the stomach are malignant: on the lesser curvature 10 times out of 100; in the pre-pyloric area 65 times out of 100; in the pylorus 10 times out of 100; on the anterior and posterior walls 20 times out of 100 and those on the greater curvature in 97 per cent of all instances.

The nature of the lesion as shown on the roentgenogram is significant. If an ulcer is shallow or irregular, if it makes the adjacent gastric rugae indiscrete, or if it shows any degree of luminal invasion, it should be treated as a gastric carcinoma until proved otherwise. Even after the pathologist has the tumor under the microscope there can be an error. We are all familiar with the so-called "ring form" cancer in which the tumor has undergone peptic ulceration and become completely eroded. The patient returns later with inoperable metastatic carcinoma.

*Technical improvements that have been important in extending resectability of carcinoma of the stomach:*

1. The thoracic and abdominothoracic incision and the refinements in anesthesia which have made this approach possible.
2. Total gastrectomy.
3. The resection of organs close to the stomach when invaded by the malignant process.

When one considers that from 30 to 50 per cent of all carcinomas of the esophagus occur in the lower one-third of this organ and that from 10 to 20 per cent of all carcinomas of the stomach are near the cardia, the value of the thoracic and abdominothoracic approach is obvious. Prior to the advent of this incision these lesions were considered inoperable.

Total gastrectomy, as advocated by Longmire,<sup>10</sup>

has undoubtedly increased the range of operability of carcinoma of the stomach and should have a favorable effect upon future survival statistics. We feel that, in large lesions and especially in lesions near the cardiac end of the stomach, total gastrectomy is the operation of choice although it carries a higher operative mortality. However, it is surprising to note comparatively insignificant nutritional disturbances following total gastrectomy. The utilization of the Roux-Y esophago-jejunostomy improves the mechanics of this operation and diminishes the likelihood of a leak at the anastomosis.

We do not hesitate to remove a portion of the liver when it is invaded by contiguity from carcinoma of the stomach. Frequently a large percentage of tissue in an apparently inoperable mass is inflammatory. It is conceded that the greater omentum should be removed in all malignant lesions of the stomach. We have resected a portion of the pancreas on many occasions and have been favorably surprised at the low incidence of pancreatic fistulae following this procedure. If the malignant lesion invades the head of the pancreas a more serious problem is encountered. One should weigh the operative mortality and the patient's future discomfort against the likelihood of a cure before removing this important segment of the organ. The spleen is seldom invaded by metastatic carcinoma but its removal facilitates exposure of the gland-bearing area around the stomach. We believe that one should not hesitate to remove the spleen when more adequate exposure is necessary.

#### Report of Cases

##### *Case 1, Carcinoma of Gastric Cardia Extending to Esophagus*

History: A 60-year-old male. Symptoms of dysphagia, retrosternal pain and weight loss.

X-ray: Filling defect in the lower third of the esophagus.

Esophagoscopy examination: Lesion could not be visualized because of edema.

Operation: June 3, 1946. Esophagogastrectomy and esophagogastrostomy through an abdominothoracic approach.

Pathology: Adenocarcinoma of esophagus.

Comment: Ten per cent of gastric malignancies occur in the cardiac end of the stomach and from 33 per cent to 50 per cent of all malignancies of the esophagus occur in the lower third. This operation offers a method for radical excision of the growth and a physiologic restoration of esophagogastric continuity.

##### *Case 2, Carcinoma of Gastric Cardia*

History: This 79-year-old man had a typical

pernicious anemia history of 1½ years duration with no response to adequate liver therapy. He lost weight and was admitted to the hospital with a hemoglobin of 20 per cent.

X-ray: Repeated x-rays of G. I. tract were negative.

Gastrosopic examinations: Revealed a carcinoma of the gastric cardia.

Operation: April 15, 1947. Transthoracic esophago-gastrectomy.

Pathology: Adenocarcinoma, papillary, stomach.

Comment: This patient died 36 hours after operation. The wisdom of a procedure of this magnitude on a poor risk case is questionable. The decision should be the patient's. The case is presented to illustrate the clinician's diagnostic tenacity and the value of gastroscopy in obscure cases with negative x-ray findings.

### *Case 3, Carcinoma of the Cardiac End of the Stomach*

History: A 57-year-old male complained of vomiting and eructation of gas.

Pain in the left upper abdominal quadrant for past two years. Had lost 17½ pounds in two months.

X-ray: Revealed an ulcerating lesion at cardiac end of stomach.

Operation: August 26, 1948. Total gastrectomy, intrathoracic esophagojejunostomy and jejunojunostomy.

Pathology: Adenocarcinoma of stomach.

Comment: This patient has maintained a normal blood count. The procedure illustrates how total gastrectomy has extended the operability of gastric carcinoma. The tumor extended into the lower esophagus.

### *Case 4, Large Carcinoma Lesser Curvature of Stomach*

History: A 63-year-old woman complained of eructations of gas, cramplike abdominal pain and a loss of 40 pounds weight. Symptoms were of one year's duration.

X-ray: Revealed a large carcinoma of the stomach.

Operation: November 17, 1948. Total gastrectomy, splenectomy, intrathoracic esophago-jejuno-stomy.

Pathology: Adenocarcinoma of stomach.

Comment: This patient died from metastases in less than six months. It is doubtful if the palliation received in this instance was worth subjecting the patient to an operation of this magnitude.

### *Case 5, Carcinoma of the Stomach (Superficial Ulcerating Type)*

History: A 60-year-old male had been perfectly

well until four months before admission. He complained of a sour stomach and cramplike pain in the abdomen after eating and had lost 16 pounds.

X-ray: Revealed an obstructing lesion at the outlet of the stomach.

Operation: January 2, 1948. Partial gastric resection. May 5, 1949. Total gastric resection for recurrence.

Pathology: Ulcerating carcinoma of the stomach.

Comment: Gross examination of the excised lesion gave one the impression that the original resection was more than adequate. Microscopically, however, the ulcer showed a high grade carcinoma. A more extensive resection was necessary in less than 1½ years. This case illustrates the fact that the size of a carcinoma of the stomach is not the only criterion of curability.

### *Case 6, Adenocarcinoma of the Stomach with Metastasis to the liver.*

History: A 74-year-old male was admitted to the hospital in March 1947. He had been vomiting "coffee ground" material since December 1946. Considerable weight loss and a marked secondary anemia.

X-ray: Revealed extensive carcinoma of the stomach.

Operation: March 13, 1947. Subtotal gastrectomy, partial hepatectomy.

Pathology: Adenocarcinoma of the stomach with metastatic carcinoma of liver.

Comment: This patient has been well since operation which shows that adequate resection of the stomach and contiguous cancer-bearing tissue can prolong life and increase the patient's comfort even though the primary lesion is large and the liver is invaded.

### *Case 7, Ulcerative Pre-pyloric Carcinoma of the Stomach with Metastasis to Gastro-Hepatic Omentum*

History: This 70-year-old male had been unusually well until four months before hospital admission when he developed anorexia and epigastric distress.

X-ray: Persistent constriction distal half of stomach. Probably carcinoma.

Operation: August 25, 1948. Subtotal gastrectomy.

Pathology: Carcinoma, ulcerative, prepyloric region. Adenocarcinoma, metastatic, perivascular, lymphatic with extension to adjacent mesentery.

Comment: A patient having digestive complaints in the cancer age with a previously normal history has carcinoma of the stomach until proven otherwise.



*Case 8, Carcinoma of the Stomach. Ulcerative, Lesser Curvature*

History: This 65-year-old woman had a typical ulcer history for 25 years and a proven gastric ulcer for eight years. Free gastric HCl was high. The patient had gained weight before hospital admission.

X-ray: Ulcerating lesion, lesser curvature of stomach.

Operation: September 29, 1948. Subtotal gastric resection.

Pathology: Carcinoma, ulcerative, lesser curvature of stomach. Carcinoma metastatic adjacent perilymphatic vessels.

Comment: From the gross findings there was evidence which suggested that this carcinoma developed in a previously benign ulcer. A chronic peptic ulcer can become malignant just the same as a chronic ulcer in other parts of the body.

*Case 9, Adenocarcinoma of the Stomach in Border of Peptic Ulcer*

History: A 74-year-old male had a typical ulcer history for three years. Study of gastric contents was normal.

X-ray: Large ulcer on lesser curvature.

Operation: April 28, 1949. Subtotal gastric resection.

Pathology: Ulcer, chronic, peptic. Adenocarcinoma in border of peptic ulcer. Gastritis, chronic.

Comment: The percentage of malignant lesions of the stomach that are mistaken for benign ulcers far exceeds the operative mortality for subtotal gastric resection.

*Case 10, Probable "Ring Form" Carcinoma of the Stomach*

History: A 72-year-old male patient with epigastric pain for five years. He was admitted to the hospital with massive gastrointestinal tract hemorrhage.

X-ray: Obstruction at outlet of stomach.

Operation: December 3, 1946, subtotal gastric resection. September 4, 1947, excision of tumor and partial resection of peritoneum.

Pathology: Ulcers, peptic, multiple, lesser curvature stomach, benign. Adenocarcinoma, metastatic, wall of abdomen, primary site undetermined.

Comment: A pre-pyloric ulcer is malignant until proven otherwise. Microscopic examination is preferable. Even this is not without error because an occasional malignancy may undergo peptic ulceration and the primary site be completely obliterated.

*Case 11, Multiple Malignant Pre-pyloric Gastric Ulcers*

History: A 55-year-old male complained of "hunger pains" for two years. He had tarry stools and, on several occasions, Sippy regime gave complete relief of symptoms.

X-ray: Pre-pyloric peptic ulcer.

Gastroscopic: Probable carcinoma, pre-pyloric region stomach.

Operation: October 22, 1946. Subtotal gastric resection.

Pathology: Carcinoma, simplex, gastric, pre-pyloric, lesser curvature.

Comment: The patient has remained well. The simultaneous occurrence of multiple malignant lesions in the stomach is unusual.

*Case 12, Leiomyosarcoma of Stomach with Gastric Ulcer*

History: A 44-year-old male complained of having spells of "indigestion" at 10-day intervals for two years.

X-ray: Round, smooth mass in stomach and a gastric ulcer.

Operation: August 18, 1948. Subtotal gastric resection.

Pathology: Leiomyosarcoma gastric; gastric ulcer, benign.

Comment: This rather common type of gastric malignancy is low grade. Early subtotal resection of the stomach offers a splendid opportunity for permanent cure.

*Case 13, Angioreticuloendothelioma of the Stomach*

History: This 90-year-old patient developed epigastric pain and vomiting three months before hospital admission.

X-ray: Obstructive lesion outlet of stomach.

Operation: June 2, 1948. Subtotal gastric resection.

Pathology: Angioreticuloendothelioma of stomach.

Comment: This tumor is pathologically unusual. The patient is symptom free. This case illustrates the feasibility of removing stomach lesions in spite of old age.

*Case 14, Multiple Gastric Polyposis*

History: This 55-year-old man's history revealed "indigestion" of five years duration although his main complaint was "hemorrhoids."

X-ray: Multiple polyposis of stomach.

Operation: November 11, 1948. Total gastrectomy, intrathoracic esophagojejunostomy, splenectomy. December 5, 1948. Repair esophageal fistula, jejunostomy.

Pathology: Multiple gastritis with polyposis of stomach.

Comment: This potentially malignant lesion required total gastric resection. The patient died six weeks post-operatively from starvation secondary to an esophageal fistula.

*Case 15, Extensive Carcinoma of Stomach with Metastases*

History: Patient had proven carcinoma of stomach with extensive metastases and complete obstruction of stomach outlet.

Operation: Posterior gastroenterostomy.

Pathology: Gross metastases from carcinoma of stomach.

Comment: A palliative drainage operation seldom prolongs the life of a patient with a gastric carcinoma when obstruction is present. However, there is relief of pain.

*Case 16, Adenocarcinoma of Stomach with Metastasis to Greater Omentum*

History: This 55-year-old man complained of fullness of stomach and regurgitation of five years duration. "Alka-Seltzer" gave temporary relief. Had visible abdominal mass which moved freely with respiration.

X-ray: Extensive scirrhus type carcinoma distal third of stomach.

Operation: Subtotal gastrectomy, splenectomy, excision of greater omentum and contiguous lymph nodes.

Pathology: Adenocarcinoma stomach with adjacent mesenteric lymph gland metastases.

Comment: It is important to note the relatively benign history when one considers the extensive involvement present. This illustrates the importance of thorough investigation of the gastro-intestinal tract with symptoms beginning after the age of 40 years.

**Summary**

1. The outlook for patients with carcinoma of

the stomach should continue to be of great concern to the entire medical profession and especially to the surgeon.

2. More extensive use of x-ray diagnostic procedures including fluoroscopic studies in patients in the cancer age and in those who have achlorhydria, gross or occult blood in the stool, pernicious anemia or known gastric polyps will undoubtedly bring more cases to the operating room when the disease is in a curable stage.

3. The transthoracic approach to gastrectomy enables the surgeon to remove previously inaccessible malignant lesions of the stomach.

4. Total gastrectomy and the excision of contiguous organs which are invaded by carcinoma should increase the possibilities for cure in certain instances.

5. Cases have been presented to illustrate the range of operability.

6. A follow-up report to include the postoperative results in a larger series of gastric malignancy cases will be presented at a later date.

**Bibliography**

1. Wylie, Major P. E., Military Surgeon, 1946, 98:131-134.
2. Dailey, M. E., and Miller, E. R. Gastroenterology 1945, 5:1-4.
3. St. John, F. B., Svenson, P. C., and Harvey, H. D. Annals of Surgery, 1944, 119:225-231.
4. Kirklin, B. R. Collected Papers of the Mayo Clinic and Mayo Foundation, 1945, 34:33-35.
5. Rigler, Leo G., and Kaplan, Henry S. Journal of National Cancer Institute, 1947, 7:327-332.
6. State, D., Varco, R. L., and Wangenstein, O. H. Journal of National Cancer Institute, 1947, 7:379-384.
7. Abrahamson, R. H., and Hinton, J. W. Surgery, Gynecology, and Obstetrics, 1947, 83:481-490.
8. Ransom, Henry K. Annals of Surgery, 1947, 126:633-654.
9. Marshall, Samuel F. The Pennsylvania Medical Journal, 1948, 51:841-847.
10. Longmire, W. P., Jr. Surgery, Gynecology, and Obstetrics, 1947, 84:21-30.

## Kansas Medical Society Annual Meetings

1951

May 14-17

TOPEKA, KANSAS

1952

May 5-8

KANSAS CITY, KANSAS



## Multiple Unipolar ("V") Precordial Leads\*

D. R. Bedford, M.D.\*\*

Topeka, Kansas

Much confusion still exists among internists concerning the use of multiple precordial unipolar leads in the electrocardiographic study. Such leads are useful primarily in the study of the ventricular (QRS) complex. Abnormalities in the QRS complex represent our only reliable criteria for accurate electrocardiographic diagnosis of intra-ventricular conduction defects, ventricular hypertrophy, and myocardial infarction. In the bipolar limb leads the QRS complex is complicated and incomplete, and its value is therefore limited.

If a hypothetical tube is passed through the chest in an antero-posterior direction, and includes the heart in its lumen, the heart's surfaces which touch the walls of the tube contain those electrical forces which contribute to the limb lead deflections. On the contrary, those surfaces of the heart observed by looking into the anterior and posterior ends of the tube contain many important forces which contribute in little or no measure to the limb leads. Clearly, electrocardiograms limited to the limb leads are analogous to the isolated use of the antero-posterior x-ray study of a body part. The ideal method of examining those regions which are silent to the limb lead is by use of multiple unipolar leads. The still common method of taking one bipolar precordial lead is of limited additional value. When one electrode is placed on an extremity, or on the back, and the other electrode on the precordium, the resulting electrocardiogram contains components of potential from both electrodes. The influence of the distant electrode is undesirable; its effects are already contained in the limb leads and merely confuse the interpretation of the precordial lead. The difficulty is overcome by use of the Wilson central terminal (Figure 2-B). It is known that a lead recorded with this method is essentially unipolar, or represents the fluctuations of potentials under the exploring electrode ONLY.

### The Normal Precordial QRS Complex

The following simplified and graphic presentation of ventricular excitation and the resulting precordial QRS complex is based on the monumental work of Wilson and his group.<sup>1,2</sup> Ventricular excitation starts just under the endocardial surface, via the bundle branches and the Purkinje system. This excitation wave (process of de-polarization,

or the accession wave) moves in a perpendicular direction away from the endocardial surface. The electromotive force of this wave has positive charges on its advancing surface and negative charges on its trailing surface. Figure 1-A illustrates early activation in the interventricular septum, earliest in the side adjacent to the left ventricular cavity. In Figure 1-B, the continued spread of the accession wave has completed activation of the septum and an equally thick endocardial layer of muscle in both ventricles. In Figure 1-C, as activation continues, all the right ventricle and an equally thick endocardial layer of the left ventricle have now been depolarized. In Figure 1-D the accession wave now nears completion; only a few cells remain near the epicardial surface of the lateral and posterio-basal portions of the left ventricle.

A set of normal unipolar (V) leads taken with the Wilson's central terminal is illustrated in Figure 2-C. The sub-script to V represents the six standard chest positions as selected by the American and British Heart Associations.<sup>3</sup> A drawing as shown in Figure 2-A illustrates the positions of the exploring electrode on the chest.

In each lead (Figure 2-C) the upstroke of R normally signals the approach of the accession wave as it moves outward toward the epicardial surface in that part of the ventricular wall subjacent to the exploring electrode. The rapid downstroke which follows signals the arrival of the process at the subjacent epicardial surface. The event is timed by the end of the downstroke. When the downstroke descends below the iso-electric line into an S deflection following R, the accession wave is retreating in a direction away from the exploring electrode in more distant regions of the ventricular muscle. On the left side of the precordium, R may normally be preceded by a small Q indicating an early retreat of the accession process in some region not subjacent to the exploring electrode where activation gets under way early. This is thought to be the interventricular septum.

At chest positions over the right ventricle (see lead V<sub>1</sub>, or V<sub>2</sub> of Figure 2-C) the initial upstroke of R heralds the approach, and the downstroke times the arrival of the accession wave in the subjacent (relatively thin) muscle wall. R is small and of short duration with an early peak. The downstroke continues below the isoelectric line into a broad deep S deflection, the result of the accession wave moving in a direction away from

\*Read before College of Physicians, Regional Meeting, Wichita, Kansas, April 29, 1949.

\*\*Grateful acknowledgment is made to Dr. Robert H. Bayley, Professor of Medicine, University of Oklahoma School of Medicine, for his experienced advice to limit the scope of this paper and his suggestions for the material covered.

## Normal Ventricular Activation

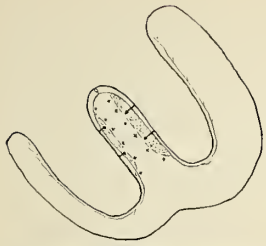


Figure 1-A

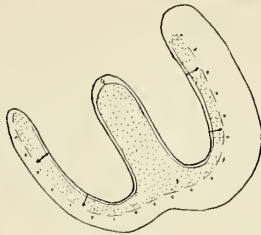


Figure 1-B



Figure 1-C

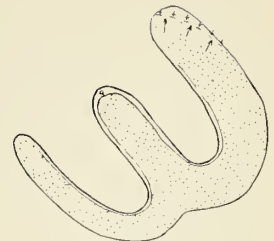


Figure 1-D

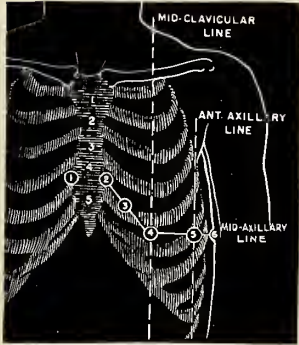


Figure 2-A. Chest electrode positions.

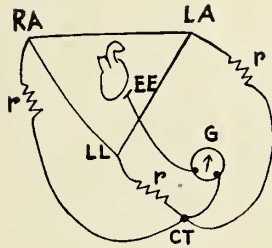


Figure 2-B. See legend at right of cut.

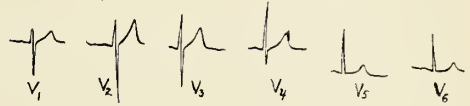
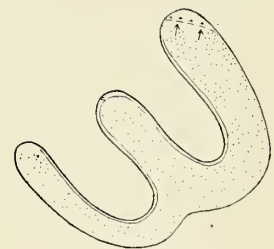
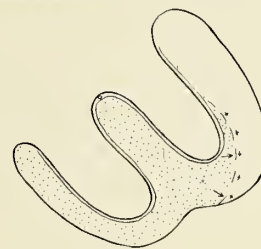
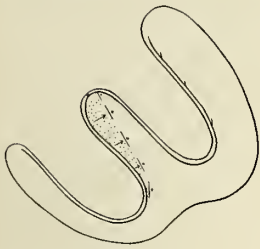


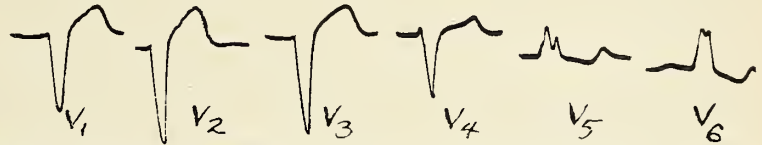
Figure 2-C. Normal "V" chest leads.

Figure 2-B. LA, left arm; RA, right arm; LL, left leg; r 5000 ohms for skin resistance; CT, central terminal (Wilson); G, galvanometer of electrocardiograph; EE, exploring electrode so attached to G that positive potential causes upward deflection.

## Left Bundle Branch Block

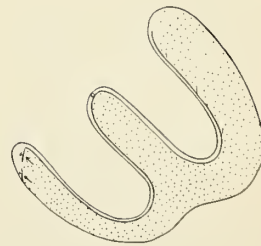
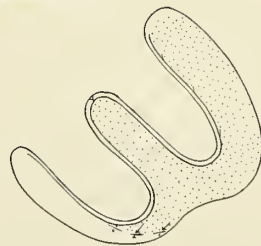
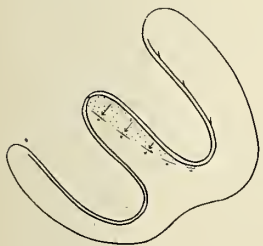


I-360 W-M

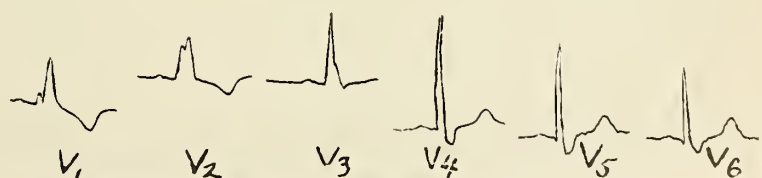
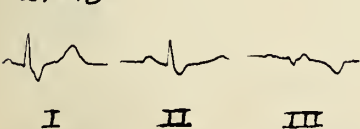


Figures 3-A, 3-B, 3-C and 3-D, top drawings, left to right. Spread of accession in left branch block. Figure 3-E, tracing. 60-year-old man with arterio-sclerotic heart disease. QRS 0.16 second.

## Right Bundle Branch Block



27-48



Figures 4-A, 4-B, 4-C, 4-D, top drawings, left to right. Spread of accession wave in right branch block. Figure 4-E, tracing. 63-year-old man with angina who developed infarction in three months. QRS 0.16 second.



the electrode as it completes activation of the left ventricle.

At chest positions over the left ventricle (see lead V<sub>5</sub> or V<sub>6</sub> of Figure 2-C), the initial upstroke R heralds the approach, and the downstroke times arrival of the accession wave in the subjacent (relatively thick) muscle wall. R is large, of longer duration and with a later peak (0.02 seconds later than at V<sub>1</sub> or V<sub>2</sub>). At V<sub>6</sub> there is no continuation of the downstroke below the zero line into an S because the muscle subjacent to the electrode is the last to be activated.

At electrode positions between the basic right ventricular (with small narrow R and broad deep S,—rS) and the basic left ventricular (large broad R with little or no S,—Rs or R) configuration, the form of QRS will gradually change, R becoming proportionately larger and S proportionately smaller as the electrode is moved from right to left over the precordium. There is usually a transition zone which is variable in width and location, where the QRS may be small or slurred, and with neither R nor S predominate. Since the basic QRS configuration of right and left ventricular patterns must be well identified the transition zone must be identified and crossed.

#### Bundle Branch Block

In left bundle branch block the accession wave proceeds as usual in the right side of the interventri-

cular septum (Figure 3-A) and the right ventricle (Figure 3-B). The accession wave reaches the left ventricle by direct extension and spreads at a relatively slow rate (Figures 3-C and 3-D). Over the right ventricle, at position V<sub>1</sub> or V<sub>2</sub>, the R is small and early, and S is unusually broad and deep. At positions V<sub>5</sub> or V<sub>6</sub> over the left ventricle, the early R is written by forces moving right to left in the septum (Figures 3-A and 3-B), the late R' is written by forces as they move out in the left ventricle; the intervening QRS complex is usually slurred or looks bifid. The late downstroke (intrinsic deflection) terminates the QRS complex since the muscle adjacent to the electrode is the last to be activated. The QRS complex is of course 0.12 seconds or longer in duration, 0.16 seconds in the tracing reproduced.

In right bundle branch block, activation of the left ventricle is normal, Figures 4-A and 4-B, but reaches the right ventricle by direct extension and spreads slowly until completed, Figures 4-C and 4-D. At position V<sub>1</sub> or V<sub>2</sub> over the right ventricle, there is the early R and the R', and the late downstroke which terminates the QRS complex since the muscle subjacent to the electrode is the last to be activated. At position V<sub>5</sub> or V<sub>6</sub>, the normal left ventricular accession wave writes a normal R; the late and slow activation of the right ventricle in a direction away from the electrode writes the broad S. QRS complex in illustration 0.16 seconds.

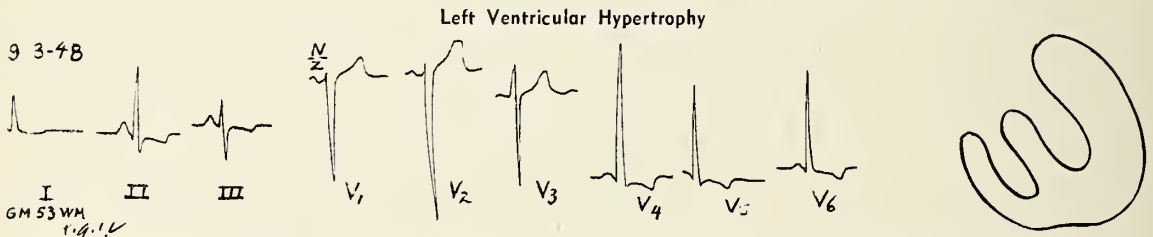


Figure 5-A. Electrocardiogram of 53-year-old man with hypertensive heart disease. Drawing illustrates size of left ventricle. N/2 half normal standardization.

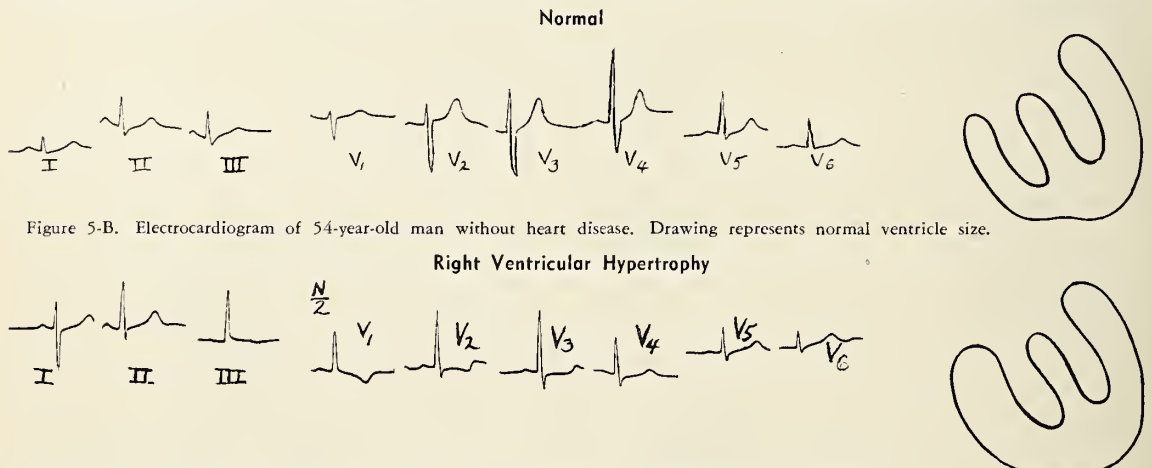


Figure 5-C. Electrocardiogram of 19-year-old girl with clinical and x-ray finding of a septal defect. Drawing shows thick right ventricle. N/2 half normal standardization.

### Ventricular Hypertrophy

Consider again spread of the accession wave in the normal ventricles (in Figure 1-A through 1-D), and the resulting normal precordial unipolar electrocardiogram, Figure 2-C, or Figure 5-B. It is apparent that the electromotive forces created by excitation of the normally thicker left ventricle, (Figure 5-B) dominate the larger and more prolonged deflections of the galvanometer, that is the larger S and the larger R of the right (V<sub>1</sub>) and left (V<sub>6</sub>) precordium respectively; as compared to the small r and the small s over the right (V<sub>1</sub>) and left (V<sub>6</sub>) precordium respectively, of the right ventricle.

In left ventricular hypertrophy, the left ventricular wall is abnormally thickened (Figure 5-A), and its excitation is associated with increased electromotive forces. The resulting unipolar precordial electrocardiogram reveals an exaggerated dominance by the left ventricle. Over the right precordium (V<sub>1</sub>) S is unusually deep and broad, whereas R is small; over left ventricle (V<sub>6</sub>) R is usually large, of longer duration, and with a later than normal downstroke which terminates a QRS complex not infrequently of .10 to almost .12 seconds in duration.

Figure 5-C depicts the right ventricle thicker than the normal left. The normal relationship of the ventricular thicknesses are thus reversed, and

it follows that the R/S relationship in the precordial electrocardiogram (Figure 5-C) is reversed and now the right ventricular effects dominate the chest electrocardiogram. As the accession wave spreads in the now thicker right ventricle the electrode at position V<sub>1</sub> records a more prominent R than usual, of longer duration, and the downstroke is late and it terminates the QRS complex. As the electrode moves from right to left the R becomes relatively less prominent and the S relatively more prominent.

### Myocardial Infarction

For purposes of broad orientation, the ventricular cavities throughout the QRS complex may be considered negative. The trailing surface of the accession wave transmits its negativity to the ventricular cavities while its advancing surface transmits its positive charges to the chest electrode and the normal initial upstroke of R is thereby recorded.

If a hypothetical hole or window is made in the ventricular muscle immediately subjacent to an electrode, no accession wave approaches it, no positive charges are transmitted to it and no R wave is inscribed. Instead, the negativity of the cavity is transmitted to the electrode and only a sudden downstroke or a QS deflection is inscribed. The transmural infarct acts as such a window to the electrode immediately above it. Infarction of an

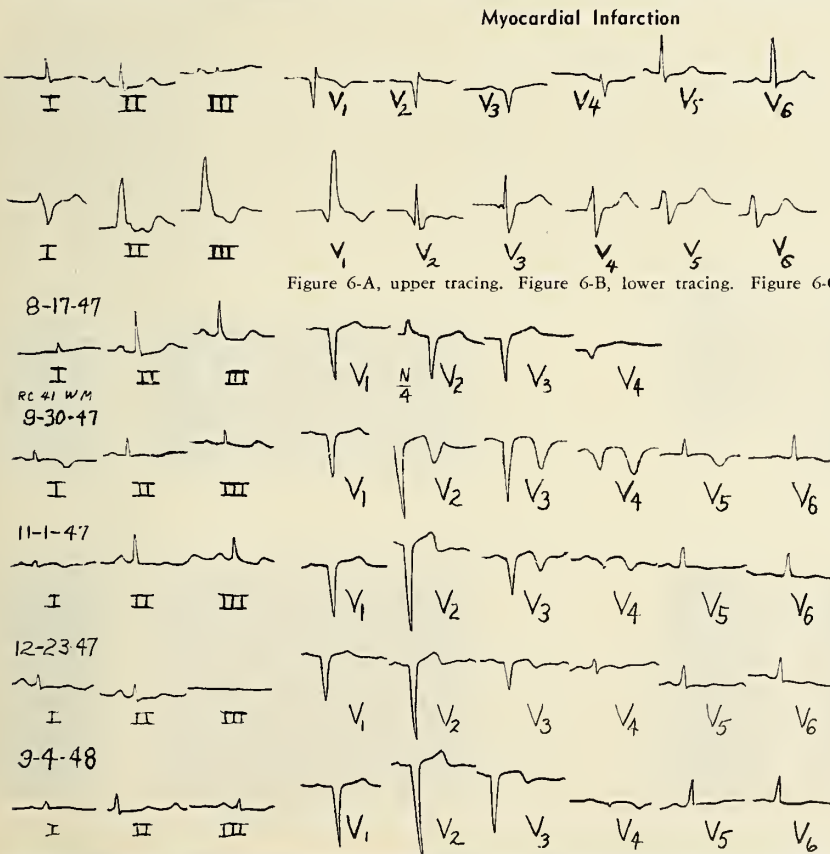


Figure 6-A, upper tracing. Figure 6-B, lower tracing. Figure 6-C, below.

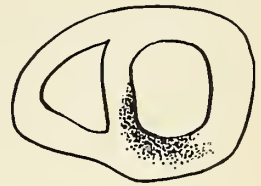


Figure 6-C. Serial tracings on a 41-year-old white male previously healthy with an atypical gastro-intestinal attack which was precipitated at the height of a tremendous emotional upset. The first tracing 8-17-47 was taken nine hours after onset. Limb leads were of little or no help but the first four chest leads showed QS deflections consistent with an antero-septal infarction (electrical interference prevented leads V<sub>5</sub> and V<sub>6</sub> being recorded). Note that in the serial tracings there never develops adequate QRS findings in limb leads consistent with the diagnosis of an infarction.



endocardial layer of ventricular muscle is reflected by a Q wave (which is very roughly proportional to the thickness of the infarct subjacent to the electrode) but which is followed by an upstroke or R, representing healthy muscle.

The diagnosis of myocardial infarction not revealed in the standard limb leads, and the more accurate evaluation of size and location and the detection of extension, have been by far the most immediate practical application of multiple precordial unipolar leads to the practicing physician. This aspect of the problem will be presented by illustrating three common types of infarction. These are:

1. Antero-septal, with QRS changes limited to the first four chest positions (see Figure 6). This is a common infarction seen in private patients and frequently not positively diagnosed because they often remain on their feet and the diagnosis is

usually not revealed in the limb leads, seldom in chest position IV, and rarely at the old apex chest lead.

2. Extensive anterior infarctions, characterized by QRS changes in all six standard chest leads (see Figure 7). This illustrates evaluation of the size and extent of an infarction.

3. Postero-lateral, characterized by the well known limb leads findings of posterior infarction plus an abnormal Q or QS at position V<sub>5</sub> or V<sub>6</sub> (see Figure 8). Serial tracings may show that a simple posterior infarction may extend laterally into the left ventricular wall.

Figure 6-A is a tracing on a 64-year-old white female seen because of anxiety, associated with the feeling that she was going to have another heart attack. Her past history was not very convincing but a QS at V<sub>1</sub>, V<sub>2</sub>, V<sub>3</sub> (nothing in limb leads) was consistent with the diagnosis of an old antero-

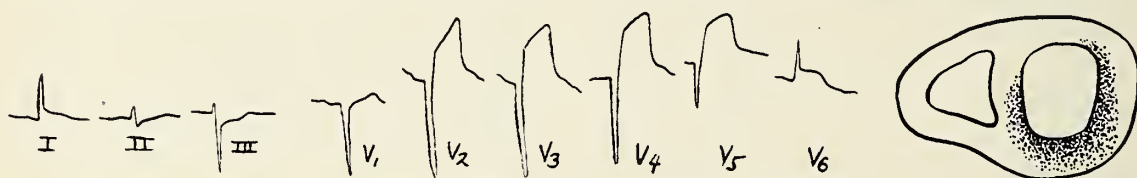


Figure 7. Extensive anterior infarction illustrated by tracing an artist's drawing.

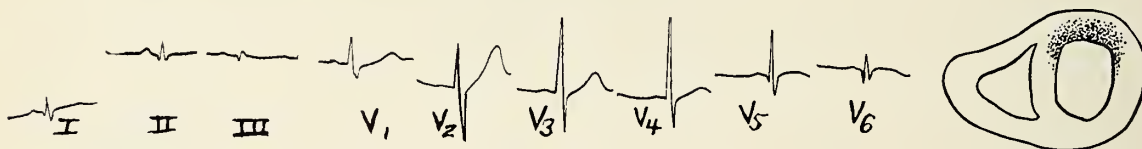


Figure 8. Postero-lateral infarction. Q<sub>2</sub> Q<sub>3</sub> in limb leads, and QV<sub>5</sub> QV<sub>6</sub> in chest leads.

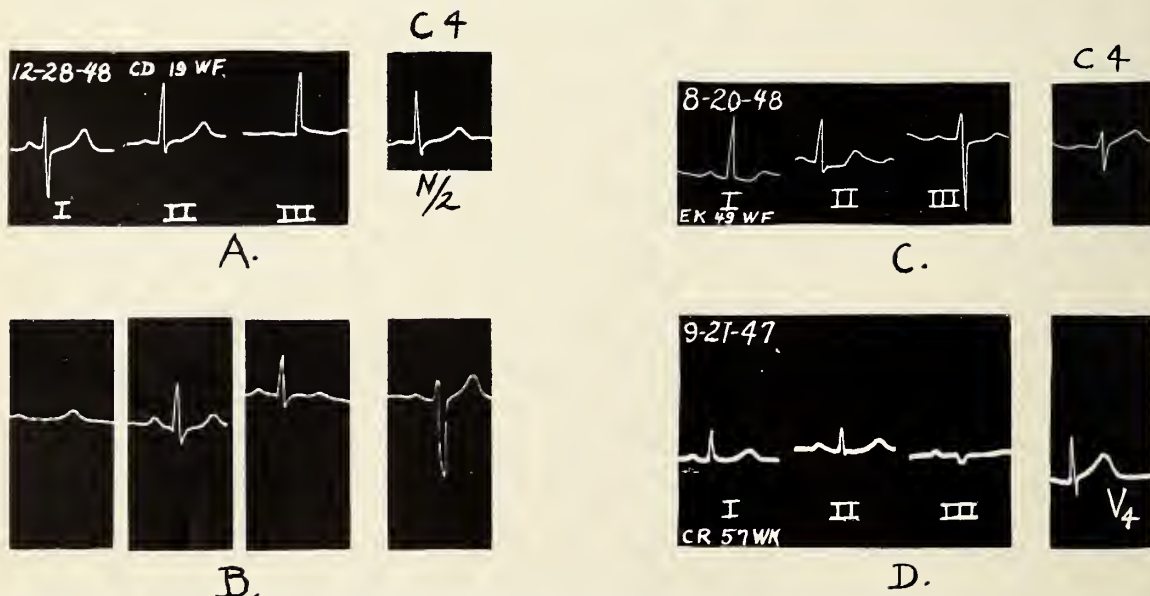


Figure 9. See text for explanation. C-4, electrode standard chest position 4. N/2 half normal standardization.

12-28-48 CD 19 WF

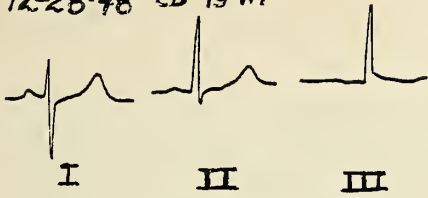
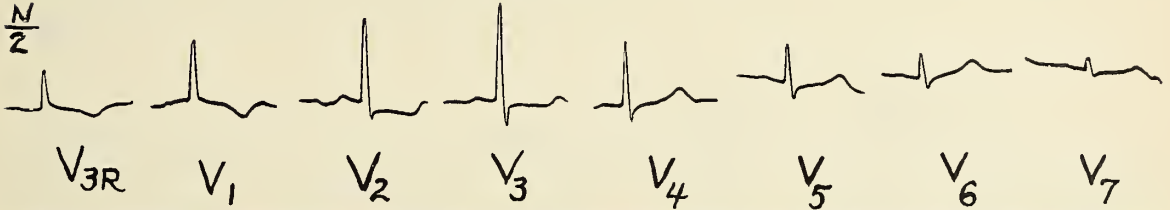


Figure 10. A more complete study on the first case, Case A. This is a tracing from a 19-year-old white female with typical clinical findings and roentgen findings of rather marked right ventricular hypertrophy. It will be noticed that the prominent R is broad and with a late downstroke which terminates the QRS complex at position  $V_3R$  or  $V_1$  which are over the right ventricle. As one proceeds across the precordium from right to left, the R becomes less prominent and the S more so. This of course is the opposite of the normal precordial electrocardiographic R/S relationships. N/2 half normal standardization.



septal infarction. Her physician at the time of her previous attack furnished clinical and electrocardiographic evidence that she actually did have a myocardial infarction three years previously.

Figure 6-B is the tracing of a 54-year-old professional man with known cholelithiasis and one previous attack of acute cholecystitis. He developed bloating, gas, right upper quadrant and epigastric distress, and retro-sternal discomfort after meals some 48 hours before admission to the hospital. The QRS complex in the limb leads is 0.16 seconds which is consistent with a diagnosis of bundle branch block. In the precordial leads, a significant Q is present in  $V_1$ ,  $V_2$ ,  $V_3$ , and it is noted that the late downstroke (intrinsic deflection) is at  $V_1$ . These findings are consistent with the diagnosis of a complete right bundle branch block (with some indication of this in the limb leads) and an antero-septal myocardial infarction (not suspected in limb leads). Antero-septal myocardial infarction was found at autopsy.

Figure 7 is a tracing of a 64-year-old white female with typical history and clinical findings of a severe myocardial infarction with prostration. An electrocardiogram with chest leads shows significant QS deflections in the first five chest positions and a significant Q at  $V_6$ . This was considered consistent with the diagnosis of an extensive anterior and antero-lateral myocardial infarction and such was found to be the case at autopsy.

The electrocardiogram and associated diagram in Figure 8 illustrate the extension of a posterior myocardial infarction out into the lateral aspect of the left ventricle. It will be noted that at positions 5 and 6, there are significant Q waves, particularly so at 6, followed by an upstroke R which represents the relatively normal healthy muscle above this endocardial extension.

#### A Practical Exercise in Multiple "V" Chest Leads

Figure 9 reproduces the limb leads and one chest lead at chest position 4 on four different patients. The limb leads are not remarkable except for axis deviation. The two cases on the left, Case A and Case B, show right axis deviation, and the two cases on the right, Case C and Case D, show left axis deviation. Case C had been on digitalis. The chest leads are not remarkable: two show what appears to be normal predominant left ventricular patterns (Case A and Case D) with prominent Rs and less prominent S; two show what appears to be normally predominant right ventricular patterns (Case B and Case C), with a small r and prominent S. The QRS complex in the limb leads indicates the axis deviation and the absence of intra-ventricular conduction defect. The one chest lead indicates the absence of a myocardial infarction subjacent to the electrode. There may be old or new myocardial infarction, or a localized disease in a part of the myocardium other than that subjacent to the electrode used. There may be right or left ventricular hypertrophy, as it is not known which ventricle is immediately subjacent to the electrodes since both the right ventricular pattern and the left ventricular pattern with the intervening transition are not shown. Finally the heart may be perfectly normal as far as can be told by electrocardiographic means.

#### Discussion

This paper is limited in scope to a discussion of the QRS complex in multiple unipolar chest leads. In somewhat less than 20 minutes, in very broad strokes, a basic and perhaps oversimplified and graphic picture has been presented. The total picture of unipolar electrocardiology in detail, however, represents what is probably the greatest single advance in cardiac diagnosis of our century.

The increased knowledge concerning the QRS



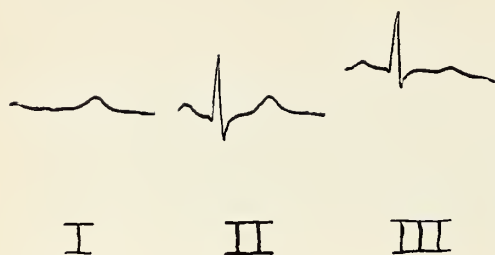
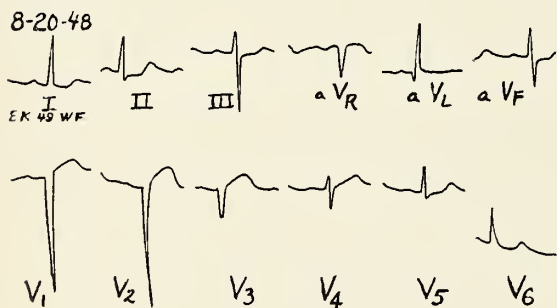
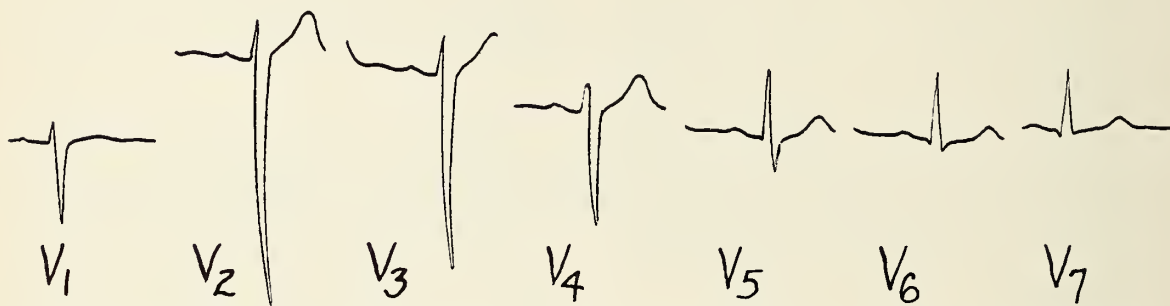


Figure 11. A complete electrocardiographic study on the second case, Case B in the exercise. This is a 39-year-old white male with several complaints, and a past history suggestive of rheumatic fever, but the only physical finding was that of a grade II apical systolic murmur. At chest position 4, the electrode is over right ventricle, as can be seen, and transition is further to the left than normal. There is slightly suggestive evidence of left ventricular preponderance at position V<sub>2</sub> and V<sub>3</sub>, where S is deeper than usual. However, the patient is young, slender, has a slightly funnel chest and it is felt that the electrode is closer than usual to the left ventricle, and that the patient had no cardiac disease.



complex is of course not complete. For example, complete right bundle branch block can be differentiated from left bundle branch block, but incomplete right bundle branch block is not so clearly differentiated from right ventricular hypertrophy.

The utilization of an accurate electrocardiographic diagnosis, as in complete bundle branch block, to a given patient, however, must be secondary to the clinical evaluation of that patient.

#### Summary

Some basic concepts of normal QRS developments as revealed in multiple unipolar precordial leads have been presented.

Some basic concepts of abnormal QRS develop-

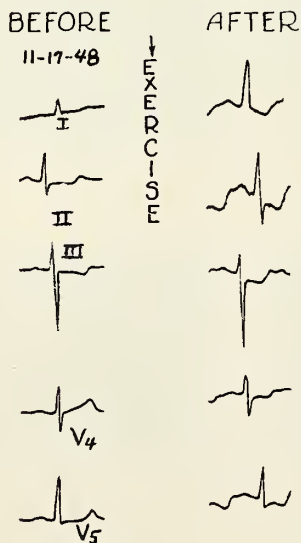
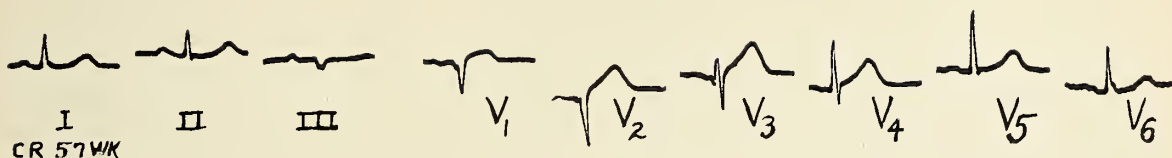


Figure 12. A more complete study of the third case, Case C. This is a 49-year-old white female who two years before, and because of mistaken diagnosis, had a normal gall bladder removed as a therapeutic measure for an antero-septal myocardial infarction. The patient survived the excellent surgery and anesthesia, but her angina pain has not been relieved by the procedure. Chest position 4 does not reveal the old antero-septal myocardial infarct, and there are no definite QRS signs of myocardial infarction in the limb leads. However, there is a definite QS deflection in V<sub>1</sub>, V<sub>2</sub>, V<sub>3</sub>. Supporting evidence that the patient probably actually did have antero-septal myocardial infarction is presented in the positive exercise tolerance test. Exercise consisted of the patient walking from her bed to the bathroom and back, a total of 50 feet, which produced pain.

9-21-47



9-23-47

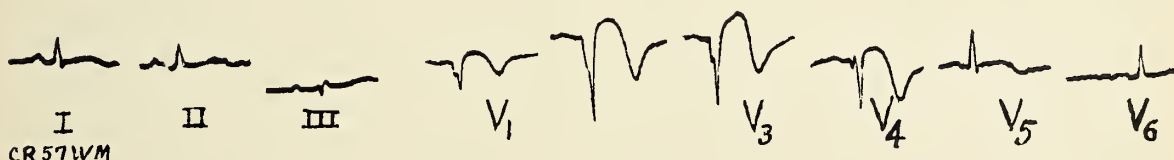


Figure 13. A more complete study of the fourth case under consideration, Case D. This was a 57-year-old white male who had sudden epigastric pain which progressed upward subternally. The first tracing was taken six hours after the onset of the symptoms. The QRS complex in the limb leads, or at chest position 4 was in no way diagnostic of the very recent antero-septal myocardial in-

farcion of which there was good evidence in QS deflections in  $V_1$ ,  $V_2$ , and a Q deflection, although small in  $V_3$ . This evidence is strengthened by the additional QRS changes (as well as St and T changes) which take place 40 hours later as revealed in the second tracing at positions  $V_1$ ,  $V_2$ ,  $V_3$  and  $V_4$ .

ments in multiple unipolar precordial leads in (1) Bundle branch block, (2) Ventricular hypertrophy, (3) Myocardial infarction, with examples, have been presented.

Four illustrative cases as an exercise were presented, first with the limb leads and one chest lead only. Then to show the value of the complete set of six precordial unipolar leads, five additional leads were added to each case.

#### Bibliography

1. Wilson, Frank N., Johnston, F. D., Rosenbaum, F. C., Erlanger, H., Kossmann, C. E., Hecht, H., Cotrim, N., Menezes D., Oliveira, R., Scarsi, R., and Barker, P. S., The Precordial Electrocardiogram, *Am. Heart Jnl.*, 27:1, 19-85, Jan. 1944.
2. Wilson, Frank N., Rosenbaum, F. F., Johnston, F. D., Interpretation of the Ventricular Complex of the Electrocardiogram, *Advances in Int. Med.*, 2:1947. Interscience Publishers, Inc., New York.
3. American Heart Association, Supplementary Report on the Committee for the Standardization of Precordial Leads, *Am. Heart Jnl.*, 15, 235, 1938.
4. Myers, Gordon B., Klein, H. A., Stofer, B. E., Correlation of Electrocardiographic and Pathologic Findings in Antero-septal infarction, *Am. Heart Jnl.*, 36:535, 1948.

DON'T FORGET TO VOTE

NEXT MONTH



## Castration and Sex Crimes

C. C. Hawke, M.D.\*

Winfield, Kansas

The matter of sex crime and sex criminals has in the past few months become front-page news all over the nation. Undoubtedly such crimes are receiving more publicity than formerly and also the criminal has become more degenerate and brutal. Very little has been offered for the control of such crimes. Certainly the limited jail sentences that have been given in a number of cases do not help solve the problem in any way and probably aggravate the condition.

A majority of our better psychologists and psychiatrists feel there is little, if anything, that can be done for the confirmed sex criminal. In cases where he can be discovered early it is highly probable that these specialists can be of assistance. The only solution usually offered in the matter of the confirmed sex criminal is that of continuous confinement, at least for a period of many years, or until a psychiatric board deems him safe to be at large. An analysis of the long-term sentences given our criminals at the present time shows that they rarely serve more than a small portion of the allotted sentence.

We are presenting the matter of castration as a remedy for this crime. I have read of numerous conferences in the past year where the statement has been made that castration is not a remedy and that very little is known concerning its effect. The lack of material on this subject is very noticeable. A few years ago while preparing an article I had a consultant and translator in the Surgeon General's Library at Washington go over all of the available material, and there was no material in the English language of any value, nor was there a great deal in the foreign literature.

It is our purpose to give the results of a research project that has been going on in the State Training School at Winfield, Kansas, for the past nine years. Our castrations first started during the administration of Dr. Pilcher, who conceived the idea that castration might help control excessive masturbation and pervert sexual acts. Dr. Pilcher talked over the matter with the Governor and Board of Charities. He then had consultation with three leading surgeons in the area and the first case was done in March, 1894. The father of the patient, a boy aged 22, and the family physician were both present and agreed to the operation which was done by the family physician. There were 11 done the first year. This became the big political issue at the

next election as a result of which the party in power was defeated and there was a change of administration at the school. Two years later the Populists again went into power and Dr. Pilcher was back as superintendent. We do not know how many cases he operated, as unfortunately a fire in 1904 destroyed the main office building and many of the records were lost. In 1908 there were about 15 of the boys still in the institution. Some of the others had died and several had been paroled. At the present time we still have eight of these original castrates in the institution.

We have available for our study 330 cases of castration. About nine years ago I called the attention of Dr. James B. Hamilton of the Long Island College of Medicine to this large group which is the only group, at least in this country, which is available or which has been studied. Since that time a very interesting research study has been going on, and Dr. Hamilton has had associated with him in this study several of our best scientists and research men. This study has been entirely on the physiological aspect which I will discuss later.

From the sociological angle we have some interesting material to present. Most of our cases are in a feeble-minded group who have no one sufficiently interested to direct and supervise them on parole so will remain in the institution. However, we have a good many cases that have been paroled and are no longer a social menace. Those cases that remain in the institution are not a menace to society when they are on short paroles, or even A.W.O.L. from the institution. We have never had a sex crime committed by a parolee or escaped castrate. The high-grade moron group is one of the most dangerous groups we encounter in this type of criminal, and many of the crimes are committed by such individuals.

I would like to give the case histories of a few individuals that have been castrated long enough that we feel sure of our results:

Case No. 1—M. B., colored male, present age 36. This inmate was admitted to the institution from an orphanage at an early age where they had a great deal of difficulty in controlling him. He is a big man about six feet two inches in height and who now weighs around 215 pounds. As a boy he was a bully in every way and brutal to smaller boys. During his stay in the institution he made numerous escapes and always fell into the hands of the law when

\*Medical Director, State Training School, Winfield, Kansas.

away from the institution. He would be returned by the legal authorities, and several of them stated they considered him a great menace to society. He was recommended for operation in 1931. At that time he was 18 years of age. The Board refused to consent to castration and recommended vasectomy instead. This was done, and one month later he again escaped from the institution and raped a small girl in Wichita. Following this episode the Board recommended castration which was done. Following the second operation he gave very little trouble at the institution, was paroled about three years later, and later discharged. In 1941 he married, moved to Wichita where he obtained employment, and has been a law-abiding citizen ever since. This man had a rather high I. Q. The school records give it as 61, but probably he would rate higher than that.

Case No. 2—A. B., white male. Was admitted in 1936 at the age of 17. Had an I. Q. of 64 at that time. At the time of admission his papers stated that he was a marked sex problem and that the authorities in his local county considered him unsafe to be released. He made repeated sexual advances to girls and was considered dangerous. This man was castrated early in 1943 and was paroled that fall. Later he was discharged. He visited the institution last week when he told us that for the past four years he has been married and was acting as janitor at an apartment house. His wife, who was a former inmate of the institution and who had been sterilized by salpingectomy, stated that they were both getting along very well.

Case No. 3—R. B., white male. Was admitted to the institution in 1923 at the age of 12. At that time he had a history of acts of sexual perversion with smaller children, numerous thefts, was constantly picking fights with playmates, and was not allowed to attend school due to those characteristics. This boy had an I. Q. of 71. He was castrated in February, 1927, and discharged in the fall of the same year. Since that time he has had no trouble with the law enforcement officers. This case is quoted as I examined him about a year ago for employment in one of the industrial plants of our city. In the course of our examination I noticed he had no testicles. When I asked him about it he stated he lost them when he had the mumps when a small boy. However, upon examination of our records I found I had castrated as described above. This man apparently is getting along very well. Needless to say, I passed him for the employment examination.

Many of these individuals so treated were vicious homosexuals and brutal in attacks on small children. They were unstable and would create a disturbance at every opportunity. After castration they become

stabilized, and those who cannot be paroled are good useful citizens in the institution.

In our experimental work we have administered testosterone, the male hormone, to several large groups in rather large doses, giving them 20 mg. hypodermically six days a week for a matter of several weeks. In a number of cases, after we had treated them for a period of two or three weeks the floor supervisor would call me up and ask if I would not be willing to stop administering testosterone to certain individuals who had reverted to all of their anti-social tendencies, were attacking small children, starting fights, breaking windows and destroying furniture. We would stop the administration of testosterone in these individuals, and within a few days they would be restabilized and cause no further ward disturbances. We have felt that this proves the male hormone is the exciting factor in these cases.

Psychologically, we feel that these individuals are improved if there is any change manifested. In the matter of the I. Q. determinations, with a group that we have had tested prior to operation and subsequent to it, using the same tests, we find that there is an average increase of a few points in the I. Q. In some who have shown a gradual decrease in several tests prior to operation we find they level off and remain more or less stationary. It is our feeling that it is the stabilization of the individuals that enables them to make a better showing in the psychological testing. They can concentrate better and are more interested in giving a good performance. Many of these individuals do detail work around the institution, on the farm, dairy barn, laundry, etc. They are much more reliable and do not require the constant supervision required before operation. The chief criticism we have had from the psychological angle is the fear that the operation will cause an inferiority complex. Such has not been our experience, either in those in the institution or in those who have been paroled.

A few years ago I appeared on a program before the American Association on Mental Deficiency at Salt Lake City where I read a paper on this subject. One of the doctors, in talking with me before I appeared on the program, condemned the procedure very bitterly, stating that he could not see how we could advocate such a method, and he continued to state without any interruption on my part that he had very nearly missed the Salt Lake meeting because he had gone into Northern New York to get one of their paroled inmates who had raped a small girl. He went on to state that this was the third time this inmate had committed such an offense. Personally, I would rather see such an individual castrated, even if he had an inferiority complex,



than to be in any way responsible for the damage he had done both physically and mentally to his victims.

The problem of the defective delinquent is one which causes great concern in every feeble-minded institution. It is estimated that among those who are institutionalized, about one in five belongs to this defective delinquent group. Many institutions have built regular jails where these individuals are confined and supervised as they would be in a penitentiary. California is building a separate institution to care for this group. It is from this group of defective delinquents that we draw our group to be castrated.

Allen of Rochester has said: "Mere maleness influences unfavorably the resistance of the organism of all ages." The object of the study being made by Dr. Hamilton and his associates is to find out "what is a male." We know that the average human male life is 65 years and that of the woman is 70 years at the present time. In 365 pathological conditions common to both sexes where a study has been made the male predominates in 245 and the female in 120. In some conditions such as baldness, certain thromboses, cancer of the oral cavity and in many of the so-called degenerative diseases there is a male predominance of 90 per cent or better. This cannot be explained in the old theory that the male is subject to greater stress and strain, as this same preponderance is found at all ages, even in the first year of life where the infants have identical care. It is also true in stillbirths as early as sex can be differentiated. It is not only true in the human being but is also true in 70 different species that have been studied, including the mollusks, insects, reptiles and, in fact, practically every species of life.

It is Dr. Hamilton's theory that the testicular secretions are responsible for the lesser vitality in males and do so by maintaining a higher active state of function in various tissues and thus burn themselves out. The study of our castrate bears this out as they are not subject to the male predominant diseases. Of those who were castrated over 50 years ago, there are six times as many living today as in the non-castrate group who were in the institution at that time.

Dr. Paul White of Boston had a group of associates doing research work in the institution for two weeks during the past summer, and as one of the results of their study, his new book on the heart will contain a statement to the effect that castrates are not subject to the degenerative diseases of the cardiovascular system.

In our total group of cases operated, 14 have been transferred to insane hospitals. During the same period 98 have been so transferred from the institu-

tion. Considering them by age groups, the number developing a psychosis is no greater than in the female or the uncastrated male groups. A great majority of these are schizophrenia cases. From our observation we do not believe that castration has any effect either to prevent or to increase liability to a mental breakdown; nor do we believe that castration will decrease the number of epileptic attacks in individuals subject to epilepsy. There is no indication that castration has any effect in either of these conditions.

The castrate does not tend to become obese. Some time ago I took 100 consecutive cases that had been castrated at least five years and their average weight was 142 pounds and height five feet six inches. Against the standard table of the Metropolitan Life Insurance Company for this age and height, the average would be 144 pounds. In this regard, it is to be remembered that the average stature of the mentally deficient group is smaller than in normal groups. They are not sluggish and lazy. Our group is detailed in the various sections of the institution and all are steady and reliable in their duties. There is no change in pitch of voice if operated after 16 years of age.

Castrates do not tend to become bald. In our cases where they have some baldness before operation it remains the same and does not progress. In following one of the research problems on baldness where we administered testosterone to some of our older castrates it was found the hair started dropping out very rapidly and that the individual followed the pattern of baldness found in his family strain. On stopping the testosterone the hair ceased to fall out.

Castration is not followed per se by sexual incapacitation. We have discharged cases who had been castrated and are now married and carry on satisfactory sexual relations. However, they have lost their excessive sex urge and exhibitionism and are stabilized to the point where they are no longer potential sex criminals. The argument has been given that these individuals would become sullen, morose and vicious unless they had an emotional outlet in masturbation which makes them more quiet and easier to control. Our experience is exactly the opposite.

We have received a number of admissions in the past solely for the purpose of castration. They were cases that had attempted rape and a number had made sexual advances to their sisters, stepmothers and other members of the family. They had become serious sex problems at home, and either by request of the parents or insistence on the part of neighbors or the law they were committed to our institution for operation. After operation we keep them in the

institution for a few weeks until we feel that they are suitable for parole, when they are returned home where they are a much more simple problem. We have no record of any sex crimes committed by our castrated parolees.

Glandular surgery is not new. It has been carried out for many years and especially is this true with reference to castration of the female. Not many years ago the removal of the ovaries was a frequent operation for almost any female disorder. Today, in taking the medical history in his office every physician frequently encounters a woman who states that her ovaries were removed 15 or 20 years ago. This practice is not as common as it was at one time. It is one that is carried out when indicated, and one usually has the full cooperation of the patient.

A few years ago when it was found that castration of the male would lengthen the life and diminish many symptoms in cases of carcinoma of the prostate, it was very difficult to get the consent of the patient for such an operation, even when told that he would receive benefit from such a procedure. One is able to get better cooperation at present since this operation has become more common. At times we still encounter great difficulty in getting cooperation. The great reluctance to castration on the part of the male possibly dates back to phallic worship. We do not castrate many females. The after-effects of such an operation are much more severe in the younger female than in the male. The only ones we recommend for such operation are the vicious homosexuals who attempt to carry on this practice at the table, in the bath, or run around the ward most of the night annoying the other inmates. We have done only about eight such cases in the past 10 years.

Many non-medical people will ask if a vasectomy will not produce the same result. A vasectomy has no effect upon the testicular hormones. The majority of cases of vasectomy show no change in sexual activity, and of those who do show some change there is a two-to-one preponderance in sexual activity. Vasectomy results in sterilization, and from the standpoint of eugenics is a valuable procedure. However, it cannot be regarded as a treatment of the individual. We are all familiar with the stabilizing and pacifying effect that castration has on the lower animals, especially in the stallion and bull. In fact, most of us have used the expression "as steady as an ox." If we can do anything to pacify the highly emotional criminal mind characteristic of these cases, such a procedure should be given serious consideration.

Following the Pilcher castrations the Kansas legislature in 1917 passed a law allowing asexualizations which has been determined by the court to mean either oophorectomy or orchidectomy. It was the testimony of those connected with the institution in regard to the improvement shown by the Pilcher castrates that secured the passing of this law. The law was last changed in 1928 and it is under this law that we now operate. The procedure is as follows:

1. From our own observation and from the reports of the supervisors a list of candidates is prepared.

2. These individuals are given a physical examination to determine fitness for operation and the type of operation to be advised is determined.

3. The patient and the guardian or parents of the individual are advised 30 days in advance that the Board (consisting of the medical director of the institution, the secretary of the State Board of Health, and the three members of the State Social Welfare Board under whose control the institution functions) will meet in Winfield on a certain date to consider the sterilization of this individual, and they may appear before the Board to make any protest they wish at that time.

4. On the day set the Board meets and the individual is presented. The ward supervisor and medical director offer testimony and recommendations and the protests, if any, are heard. Following this the Board renders a decision which is final and mandatory. Protests are rare and are usually cleared up before the meeting.

In summary, we have found that castration improves the sex criminal sociologically in that he usually refrains from his anti-social acts and becomes an acceptable member of society. Psychologically he is stabilized, does not suffer any mental deterioration, and while he may have a moderate degree of an inferiority complex this is favorably balanced by his social improvement. Physically, he is a better organism.

In concluding, I might state I don't know what your mental picture of a castrate is, but I suppose it is like mine was before I knew any of this group: a large, fat, sluggish eunuch waving a palm leaf fan in a Turkish harem surrounded by feminine charm and temptation to which he was unable to yield. I can assure you such is not the case. He is a quiet, industrious, individual in good health, filling an unfortunate place in nature's program which has been made easier by a simple surgical procedure.



## The Care of Hand Injuries\*

### Open Fractures

#### I *Protection of the Hand* (Abstract of Article I)

The first-aid care of wounds of the hand is directed fundamentally at protection. It should provide protection from infection, from added injury, and from future disability and deformity. The best first-aid management consists in the application of a sterile protective dressing, a firm compression bandage and immobilization by splinting in the position of function.\*\* No attempt should be made to examine, cleanse, or treat the wound until operating room facilities are available.

#### II *Requirements of Early Definitive Treatment* (Abstract of Article II)

Early definitive care requires thorough evaluation of the injury with respect to its cause, time of occurrence, status as regards infection, nature of first-aid treatment and appraisal of structural damage. For undertaking definitive treatment the conditions required are a well-equipped operating room, good lighting, adequate instruments, sufficient assistance, complete anesthesia, and a bloodless field. Treatment itself consists of aseptic cleansing of the wound, removal of devitalized tissue and foreign material (exercising strict conservation of all viable tissue), complete hemostasis, repair of injured structures, protecting nerves, bones and tendons, and providing maximum skin coverage, and application of firm protective dressing to maintain the optimum position. After-treatment consists of protection, rest and elevation during healing and early restoration of function by directed active motion.

#### III *Surface Injuries* (Previously published)

#### IV *Lacerated Wounds* (Previously published)

#### V *Fractures and Dislocations* (Previously published)

#### VI *Open Fractures*

Major wounds of the hand may be caused by crushing or tearing injuries, injuries from explosions, or by the impact of foreign bodies. Such wounds may involve damage to skin by burning or avulsion, laceration of soft tissues, and open injuries of bones or joints. The purposes of early treatment are:

- (1) Relief of pain and shock
- (2) Arrest of hemorrhage

(3) Protection against infection and further injury

(4) Removal of foreign bodies and dead tissue

(5) Conservation and restoration of damaged structures

(6) Early healing

(7) Restoration of function

#### A. First-aid treatment

1. Application of voluminous sterile dressing without interference with the wound, the hand being placed in the position of function.

2. Hemostasis can usually be obtained by pressure gently applied to such a dressing. A tourniquet is rarely needed, but may be employed briefly to check brisk, continuing blood loss.

3. Shock and pain may require appropriate treatment.

4. The hand, in initial dressing applied as above, is splinted in position of function for transportation to adequate surgical facilities.

#### B. Definitive treatment

1. If bones or joints are thought to be involved, preliminary x-ray views are made without disturbing the initial dressing.

2. Patient is treated systemically for pain, shock and hemorrhage; antibiotics and tetanus antitoxin (or toxoid booster) are administered, and the patient prepared for operation.

3. In operating room, with patient anesthetized, dressing is removed.

4. With the wound carefully protected, the arm, forearm, and hand are scrubbed, shaved and draped.

5. The skin wound and the area about it are carefully and gently cleansed with soap and water or mild detergent (no antiseptics) and the entire wound examined. Bleeding vessels are ligated.

6. Foreign material and devitalized tissue are accurately trimmed away.

This procedure aims at thoroughness, but must strictly conserve the maximum of viable tissue. It is particularly important to preserve skin and all bone fragments which are not completely free and displaced.

7. Repair of soft tissue injuries is governed by criteria of length of time since injury and of the degree and nature of contamination. Where conditions are favorable (i.e., in relatively clean wounds not more than three or four hours old), initial repair may be effected within limitations described in Article IV.

\*Note: This is the sixth of a series of articles on "The Care of Hand Injuries." This material is prepared by the American Society for Surgery of the Hand and is distributed by the Committee on Trauma, American College of Surgeons, through its regional committees.

\*\*Position of function or position of grasp: wrist hyperextended in cock-up position; fingers in mid-flexion and separated; thumb abducted, slightly forward from hand and slightly flexed.

Even in unfavorable cases, severed nerves should be united if possible, or at least identified by long sutures of stainless steel.

8. Dislocations of joints, if open in the wound, are reduced.

9. Bone fragments in the open wound are restored as nearly as possible to normal position, but without fixation by foreign material. In some instances the employment of stabilization with a minimum of stainless steel wire is justifiable if required to maintain reduction.

10. Maintenance of reduction of open fractures may usually be obtained by skeletal traction or appropriate splinting. If required, pins for bone fragment fixation or skeletal traction are applied as there described.

11. Maximum skin closure is effected. Particular care is taken to cover bones, joints, tendons and nerves. Where required, pedicle skin grafts (local or from abdominal wall) may be used for coverage unless established or inevitable infection forbids.

12. Pressure dressing is applied and the hand splinted as required for optimum control of its repaired injuries, approximating as closely as possible the position of function. Flat splinting is to be avoided. Uninjured parts of the hand should be left free for movement. The hand is kept elevated.

#### C. Subsequent dressings

These are managed with regard to the following factors named in the order of their importance: (a) Control of infection, adequate drainage; (b) Establishment of bony union and joint healing; (c) Early completion of skin coverage and healing.

1. The establishment of infection in the wound may require early and frequent dressings to insure its control. These should be done under aseptic conditions and in such manner as not to disturb the corrected position of injured bones or joints.

2. Large skin defects should be covered by grafting at the earliest moment compatible with the maintenance of position of corrected bone and joint injuries.

#### D. Restoration of function.

Following healing of skin and soft tissues and firm union of bony structures, as much function as possible should be restored by directed active use of the hand, therapeutic exercises and occupational therapy.

Reconstructive surgery is often required after such injuries to permit maximum restoration of function. Such reconstruction will be less extensive and less formidable if the early management of the injury is judiciously and carefully carried out.

### THIRD ANNUAL MID-WEST CANCER CONFERENCE

January 18, 19 and 20, 1951

Broadview Hotel

Wichita, Kansas



## PRESIDENT'S PAGE

Dear Doctor:

It is football season again and I believe the greatest lesson football teaches is cooperation and coordination—in other words how to get along with others. My ideas on this are not new nor particularly profound and perhaps not even original. Too often we all fail in our efforts to get along with others. Let us analyze some of the conditions and some of our reactions.

We are engaged in a game. There are a lot of players in many different positions, each with a specific assignment. One carries the ball, and if he succeeds he receives the acclamations of the crowd. There were others in on that play, a ball passer, one or more ball handlers, and numerous blockers. You or I may have been deployed a long way from the actual scene of action. We did not receive any personal recognition or applause, but we performed our specific assignment and we are still on the team. And our team is winning. It is as simple as that!

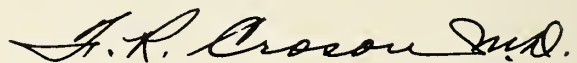
It is exactly that way in our medical society activities. We are constantly engaged in many important projects which in one way or another are all your projects. Surely, at times, there is an outstanding ball carrier, but the united effort of all of us is required to achieve success. We are all on the team and our team is winning. It is as simple as that!

There are countless individuals and thousands of organizations fighting for the preservation of free enterprise in the United States. Sometimes the ball carrier gains ground without any immediate help from us. Sometimes he loses in spite of the best help we can give. Most of the time it is slow going with all our concerted effort. But it is still our team and we will win if we continually combine our abilities. It is as simple as that!

Sometimes the ball carrier is a colleague in our community or even in our own town. If he succeeds, he helps me; if he fails, I suffer a part of that defeat. The ground he gains is ground that I also gain, for he is on my team and I take pride in that. When he wins, I win too. It is as simple as that!

Getting along with people is not nearly as complicated as we are often led to believe. We are all on the same team and we will and must all work together for our mutual success and benefit. What if someone carries the ball and gains the ground and receives the applause? You and I are on that team. We are winning too. It is as simple as that!

Sincerely yours,



President.

P. S. Do not forget to vote intelligently.

## EDITORIAL COMMENT

### Civilian Defense

A Boston physician recently prepared a paper on medical aspects of civilian defense in which he discussed in general as well as specific detail the type of services that will be needed in the event of a total war. He closed the paper with a quotation, "The affair cries, Haste and Speed must answer it!"

Doctors have never played a tactical part in war. The medical profession has done much to lighten the load of human suffering but little to strengthen the nation's fighting arm. The conditions of war are now changing to a point where the medical profession may suddenly become a potent military force, but at the same time could be as urgently needed on the civilian front as with the fighting men.

The speed of attack has now exceeded that of sound. In the Civil War the army advanced no faster than horses could carry it. In World War I the combat plane flew about 200 miles an hour. In World War II air travel was more than twice that fast. Today supersonic speed is a reality and tomorrow it will be commonplace.

Cities are now at the front. Any one or many American cities can be struck without warning. The traditions of international law will be discarded and the previous custom of declaring war before beginning hostilities is now a thing of the past.

Several years ago an official predicted that any urban area with dense population would yield at least 100,000 casualties. Since then the destructive power of known weapons has so greatly increased that this estimate is no longer adequate.

In the face of this danger the most futile policy men could adopt is to sit by idly and hope that it may never materialize. It is absolutely essential to have plans completely worked out to the last detail. Under these plans medicine will not function as an auxiliary of the other services but as a primary department of itself. Physician shortages cannot be tolerated during this war because the most urgent need for medical care in the hope of survival could well be on the civilian front. The number of doctors needed will be much greater than ever before and any waste of medical manpower will be not only inexcusable but also insupportable.

In the case of an atomic attack the medical facilities, including hospitals and everything else within the area that is struck, will be rendered useless. Civilian defense must be set up on the periphery of the target. The medical defense units must be ready for instant action to care for perhaps hundreds of thousands of casualties. This requires

organization of a complexity that has never before been adopted. It means safe storage of every item of medical needs, surgical instruments, drugs, plasma. It implies the immediate installation of not only surgical staffs but entire hospital units. It involves a complete transportation system that must operate efficiently under the most hazardous conditions. It means that medical manpower must be available and trained for such duty. It involves public health services in quantity that is available nowhere in the state today. Immediate immunizations might be required by the entire population, permanent wholesale identification measures might need to be established and completed within a 24-hour period, and bacterial and chemical warfare following an atomic attack might add a vast variety of problems under circumstances that can scarcely even be imagined.

The Kansas Medical Society, through its Committee on Emergency Medical Care, has offered to the Governor of Kansas the services of the medical profession. As soon as the state outline of civilian defense is available, the medical profession will begin to work out details regarding defense. It stands ready to do so immediately.

---

### Forensic Medicine

Coroner laws in Kansas and in other states are notoriously inadequate. The situation deprives medicine of an opportunity for an important service to many persons as is described in a series of papers on forensic medicine published in the September 1950 issue of the *Annals of Western Medicine and Surgery*.

Twenty per cent of all deaths in the United States result from violence or occur unexpectedly from obscure causes. This is approximately 300,000 each year of which nearly half leave the cause of death in doubt. Some 13,000 to 14,000 murders are officially recognized, one murder each year for every 10,000 living persons. From past experience, it must be anticipated that over 250,000 persons now alive in the United States will be victims of homicide. Since the investigation of violent or obscure deaths is insufficient in many localities, the number of murders that actually take place or the number of deaths due to accident, suicide, or natural causes that are erroneously attributed to murder cannot be estimated.

A large number of the unsolved deaths might have been cleared if adequate postmortem examinations had been made. For the purposes of this discussion the usual autopsy is of little consequence and frequently obliterates more evidence than it re-



veals. The average physician's interest in an autopsy has to do with the science of medicine. A coroner's autopsy tries to determine the cause of death.

"The medico-legal postmortem examination is more than an autopsy. In many instances, it is the principal or only source of reliable information on a wide variety of important matters. It must be so planned and conducted that all facts of potential importance to the law will be acquired even though much of the information gained would be of little value or interest according to ordinary medical standards. Thus, from the standpoint of justice it is likely to be more important to learn whether the deceased was shot from in front or from behind than to learn that the bullet passed through the heart; whether the fatal shot was fired at a range greater than 12 inches than to discover that the deceased had heart disease; whether there is a high concentration of carbon monoxide in the blood within an intracranial hematoma in the case of an apparent gas suicide than to learn that the body was riddled with cancer. Again, the guilt or innocence of an accused person may rest principally or entirely on medical evidence relating to the probable time of death. Further, in the interests of justice the acquisition of medical evidence bearing on the identity of the victim of murder may prove to be fully as important as the evidence which establishes the cause of death."

And yet in only seven states in the nation is the coroner required by law to be a physician. Kansas is not among the seven. Even in many metropolitan centers the coroner need have neither medical nor legal qualifications. In many counties across the land the local mortician is the coroner, and the physician is frequently prohibited from viewing the dead body at the site of an apparent homicide. The author states it as a fact that "medical science participates less effectively in the administration of justice in the United States than it does in any comparable civilized country in the world."

There is much talk about changing this situation, but direct legislative action is needed before anything concrete can be accomplished. By the time the 1951 Kansas legislature comes into session a model law currently under preparation will be completed and will include the recommendations of the American Academy of Forensic Sciences, the American Medical Association and the National Municipal League. This should be made available and be given consideration.

It is suggested that the average physician who thoroughly dislikes testifying in court also considers himself unprepared by training to conduct skilled, legally helpful postmortems. In very few areas is there sufficient business to justify full time, year

around, adequately paid toxicologists, pathologists, and other experts for first class laboratory and autopsy work and for field investigation. The author suggests that any state will be best served by a central medico-legal laboratory staffed with experts who will be without regional bias and who can be called quickly to any part of the state. Such an expert in legal medicine will be more reliable as a source of evidence than the most sincere but inexperienced and occasional investigator. Local authorities could then call upon such experts at any time their services might be needed.

Kansas has made beginnings in that direction but needs to strengthen its coroner laws so that investigators at the local level can be depended upon to be men with sufficient training to recognize the need for expert attention. This need has long been in existence but the unsavory record of past performance can certainly justify taking a positive step in this direction now.

---

### Physicians' Fees

The occasional exorbitant fee charged by an individual physician has received widespread attention in recent years. The medical profession, standing in the glare of public scrutiny as never before, is beginning to react from the gibes that are occasionally received. Two major defenses have arisen almost spontaneously. One is the performance of additional services and the second is public relations.

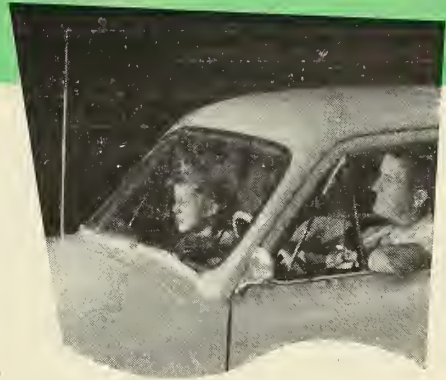
Under additional services comes the belated but sincere attempt to provide for the public a form of voluntary prepaid health insurance. Enough has been written on this subject to make further analyses unnecessary. Public acceptance has generally been satisfactory but, as in any new venture, details involving management and service are numerous and often misunderstood. Cancellation rates are still far beyond a point of safety. Services in many areas of medical care are not complete. The patient feels that he is only partially protected. These and many other problems are minor and will become adjusted as quickly as experience permits.

The second reaction to public criticism has been an awakening of interest on the part of the medical profession toward public relations. Again, this being a novel venture, it leaves the profession with varied and conflicting ideas as to what should be done. Some societies interpret public relations as publicity. Others have directed primary attention to grievance committees, and still others do many different things. In general, however, public relations shall influence opinion of the consumer toward approval of the product or service provided. This implies not only propaganda to sway opinion but the correction of inherent faults within the service.



*"A high percentage of cases of seasickness and carsickness can be aborted or prevented by suitable doses of dimenhydrinate (Dramamine)."*

—Council on Pharmacy and Chemistry, New and Nonofficial Remedies, J.A.M.A. 143:815 (July 1) 1950.



**DRAMAMINE<sup>®</sup>** Brand of Dimenhydrinate—for the prevention or treatment of motion sickness—is supplied in 50 mg. tablets and in liquid form.



RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**



It is readily acknowledged that the good of medicine clearly transcends its faults, but since public attention is currently magnifying the faults the profession is beginning to direct a critical glance toward putting its house in order.

One of the great problems is the occasional exorbitant fee. This occurs so infrequently that interest in the subject is out of all proportion to its importance. However, when it does occur once, the medical profession in a wide area suffers considerably. To protect themselves against even these rare occasions, some medical societies adopt fee schedules and have exercised authority over individual physicians regarding the regulation of their fees.

To us it appears that any attempt to regulate the fees of any physician, even when the attempt comes from the medical profession, is unfair and improper. The control, if such becomes necessary, could be obtained in another direction. Major General Paul R. Hawley, in a recent speech, gave a clear picture of this situation when he said, "Let me make it clear that I believe implicitly that it is the inalienable right of every doctor to charge whatever he wishes for his services. He has a perfect right to set a minimum fee of \$5,000 for an appendectomy, and no one should ever question that right. The important thing is the way in which the patient learns of the fee..."

"No patient has the slightest cause for complaint if he knows *in advance* exactly to what he is being obligated. Of course, there will always be the emergencies in which there is no time to make such arrangements, but these are not sufficiently numerous to make any great difference.

"I realize that discussions of this kind are distasteful to many doctors, but I think they can be handled in a way that will embarrass neither patient nor doctor. In any event, a little diffidence before the operation would appear to be of less consequence than a stormy argument or lawsuit afterward. I commend this innovation to you for your careful consideration. I am sure that at this critical juncture for medicine we can afford to neglect no opportunity to improve our public relations."

### Oklahoma City Clinical Society

The 20th Annual Fall Clinical Conference of the Oklahoma City Clinical Society will be held October 30, 31, and November 1, 2, at the Biltmore Hotel in Oklahoma City. The postgraduate medical assembly again offers the medical profession of the southwest another service of intensive clinics and lectures covering the most important fields of medicine, surgery, and the specialties. The 17 guest lecturers this year are among the recognized leaders in

their respective fields and have chosen practical subjects.

The officers and members of the Oklahoma City Clinical Society, being cognizant that the rapid development of new facts and theories in the field of medicine necessitates frequent postgraduate instruction for those who would progress, have arranged in this course a four-day period of intensive instruction at a most nominal expenditure of time and money for those who attend. Those who have attended this conference in the past have been impressed with the precision in which the program is carried on, its diversity, the practical experience gained from the lectures and the direct association with them, and the wholehearted hospitality accorded all visitors.

Among the list of guest lecturers will be found the name of Dr. Ernest Sachs, a well-known neurosurgeon. Doctor Sachs was scheduled on the first guest lecturer list in 1930; he returned in 1940, and he will appear again on the 20th anniversary program. Dr. Claude F. Dixon, Rochester, Minnesota, has also been invited to return for his third appearance this year. Dr. Elmer L. Henderson, president of the American Medical Association, will also be present.

The announcement of the coming meeting will be found on another page of this issue of the Journal.

---

### Omaha Clinical Society to Meet

The Omaha Mid-West Clinical Society will hold its 18th annual assembly at the Hotel Paxton, Omaha, October 23-27, inclusive. The Omaha society has received a Class A rating from the American Academy of General Practice, which means that Academy members who attend will receive credit toward the 50 hours of formal postgraduate study required of them every three years.

The general program plan for 1950 will follow the pattern of previous years. Nationally known guest speakers will represent the specialties and will participate in question and answer periods, members will present lectures, panel discussions and scientific exhibits, and scientific motion pictures and technical exhibits will be included in the program. A guest panel on antibiotics will be featured on Friday morning during the meeting.

---

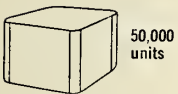
### Error in Dosage

The omission of a decimal point in a dosage quoted in the September issue of the Journal caused a serious error. In the section headed Case Report from the University of Kansas School of Medicine, Page 432, it was stated that a patient "was given ouabain, one cc. or 25 mg...." The quantity should have been 0.25 mg.

*When little patients*  
**turn a cold shoulder**

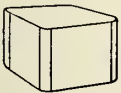


**B**AD-TASTING medicine usually meets a chilly reception in small fry circles. But if Junior likes candy, you can melt the ice by prescribing *Dulcet* PENICILLIN Tablets. These small, easy-to-take cubes taste like a confection, yet pack a potent antibiotic wallop—50,000 or 100,000 units penicillin G potassium per tablet. Each *Dulcet* Tablet is buffered with 0.25 Gm. calcium carbonate to minimize loss of therapeutic value through destruction in the stomach. From first to last in every bottle, the tablets are carefully standardized for accurate dosage, stable indefinitely at room temperature. • *Dulcet* PENICILLIN Tablets are in pharmacies everywhere, in bottles of 12 and 100. Prescribe them the next time penicillin is indicated. **Abbott**



50,000  
units

100,000  
units



See that  
the  
Rx reads

**DULCET<sup>®</sup>** *Penicillin*

Potassium Tablets (Buffered)

\*MEDICATED SUGAR TABLETS, ABBOTT



---

## SERVICE NOTES

---

### Physician Draft Bill

The President has signed the Physician Draft Bill but at the time of writing administrative details have not yet been announced. The next steps involving this program may be some weeks away. The following, however, is an analysis of material contained in the bill.

Physicians and dentists who on the registration date (which has not yet been determined) have not reached their 50th birthday and who are not members of the reserves shall be required to register. Other specialty classifications such as veterinarians, pharmacists, etc., may be required to register at a later date if specified by the President. Members of the reserves, active or inactive, will not be required to register since they are already subject to military orders.

Registration will take place in appropriate points in each community. Shortly after this phase has been completed Selective Service will place each physician in one of four categories. When called, he will be ordered for his physical, after which he has 21 days before reporting to an induction station where he will be offered a commission and assigned to service. The law provides that with the approval of the officer and the services involved he may transfer from one service to another and be placed in a comparable grade. The length of service under this act is 21 months.

Shortly after registration Selective Service will classify all physicians into four groups representing the order in which men will be called. The first group includes former ASTP and V-12 men who have not served on active duty (military, Coast Guard or Public Health Service) and others deferred from service to continue their education during World War II, and who have had less than 90 days of active duty. Those in the second classification are members of the above groups who have had more than 90 days active duty (military, Coast Guard or Public Health Service) but less than 21 months. In the third classification, with no reference to the above groups, are those who did not have active service (military, Coast Guard or Public Health Service) subsequent to September 16, 1940; this could include postwar medical graduates as well as other physicians who have not served and have not reached their 51st birthdays. All others, including World War II non-reserve veterans, make up the fourth group. They will be called on the basis of extent of duty, those with least duty first, etc.

A physician may apply for a reserve commission even after registration. If a commission is granted he

will then come under military orders and Selective Service will not process him further. This point is important because all reserve officers who are called into active service will receive the \$100 monthly bonus whether they enter voluntarily or are called to duty. Physicians who are called to active duty under Selective Service will not receive the bonus.

Deferment under the draft bill will be made by the local Selective Service board. The President will authorize certain general deferment classifications which will control the action of the boards, but the individual decision will be made at the local level. The medical profession will be permitted to advise Selective Service regarding civilian needs for medical care. The bill states that appropriate consideration shall be given such requests. A national Medical Advisory Committee will be set up and state-wide committees will cooperate with this group. The law says nothing about the establishment of local advisory committees. If this is done, it will depend upon local conditions.

The extent to which the draft will be used depends entirely upon the number of men who volunteer. The formula is simple. The armed forces will establish regular quotas which will be filled one way or another. If enough volunteer, the draft will not be called into action. Whenever volunteers fail to meet the quotas, the difference will be made up through Selective Service. Past experience has not been good. The Army reports that during July and August only one former ASTP physician in the United States volunteered for service. The potential is great enough, however, that should the ASTP and V-12 physicians be available for service the quotas for the armed forces might be met from this source alone for the coming year.

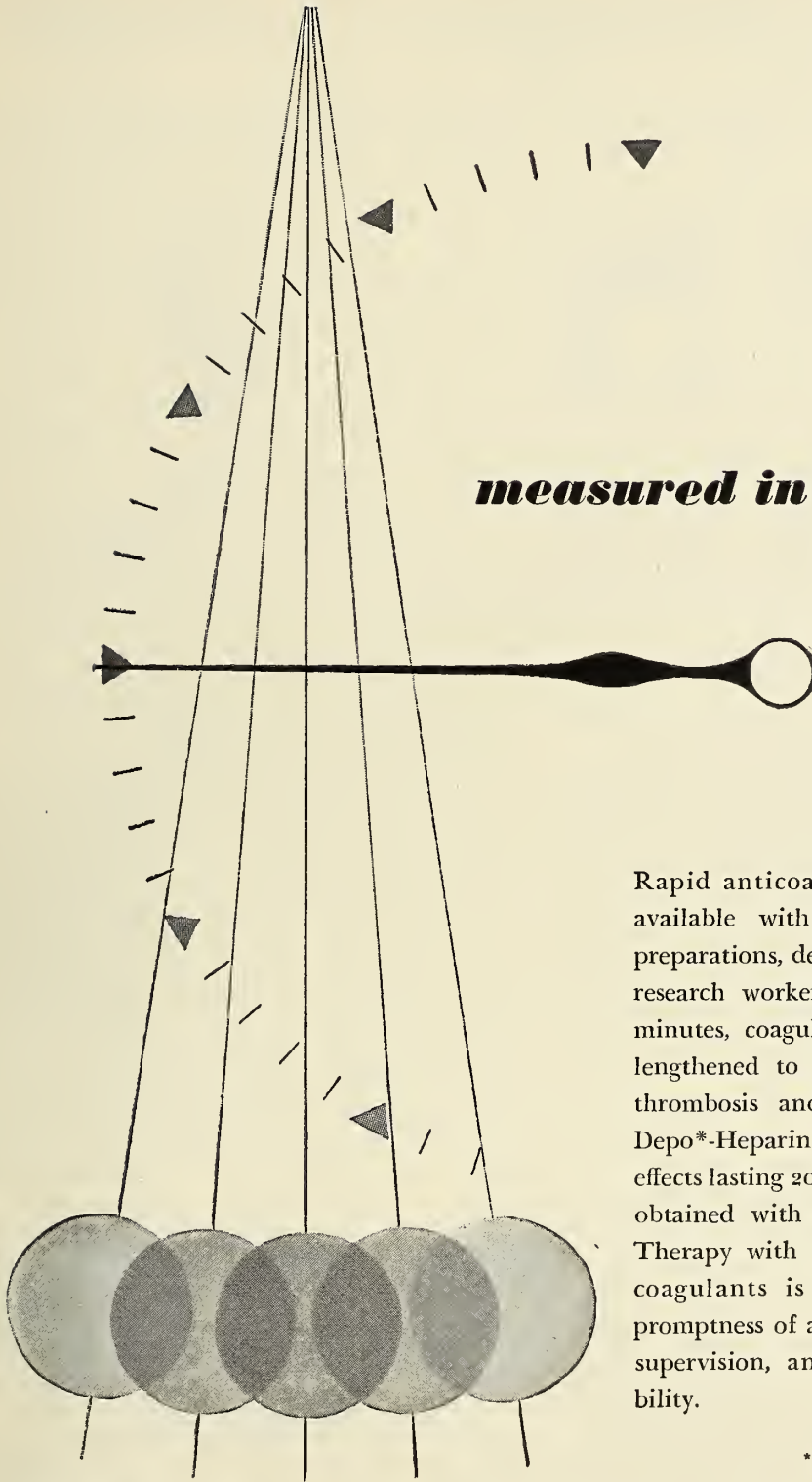
---

### Weariness Symptom of Allergy

One of the most difficult problems in medicine is to evaluate the symptoms of tiredness and to ascertain its cause, according to Dr. M. G. Meyer, Michigan City, Indiana, who addressed the American College of Allergists at its recent meeting.

He said that too much emphasis is now being placed upon the emotions as a cause of this condition. Certainly, he pointed out, there are many emotionally disturbed, intelligent persons seen every day in a physician's office who do not complain of being tired. In his experience, the poisons of allergy may parallel the psychic injuries in the impact upon the patient's personality.

Six per cent of the patients seen by Dr. Meyer over a three months period came for relief from tiredness and many made good recoveries when the offending allergen was eliminated.



Rapid anticoagulant effects are available with Heparin Sodium preparations, developed by Upjohn research workers. In a matter of minutes, coagulation time can be lengthened to offset danger from thrombosis and embolism. With Depo\*-Heparin Sodium, prolonged effects lasting 20 to 24 hours may be obtained with a single injection. Therapy with these Upjohn anticoagulants is distinguished by promptness of action, simplicity of supervision, and ready controllability.

\*Trademark, Reg. U. S. Pat. Off.

**Upjohn**

*Medicine...Produced with care...Designed for health*

THE UPJOHN COMPANY, KALAMAZOO 99, MICHIGAN



## Case Reports From the University of Kansas Medical Center\*

## Tumor Conference

Edited by R. E. Stowell, M.D., and D. M. Gibson, M.D.

## Tumor Conference Case No. 50-52

Malignant tumors of the corpus of the uterus, although less frequent than cervical cancer, should be carefully considered in the differential diagnosis of pelvic diseases. Some types are readily detected and efficiently treated if recognized by the first physician seen by the patient.

History: B. W., a 77-year-old white woman, was first admitted to the University of Kansas Medical Center on March 20, 1950, complaining of spotty vaginal bleeding during the previous four months. Four years previously she had had a similar complaint and received radium therapy. One year before admission a diagnosis of diabetes had been made and she was placed on a diet without insulin. She had lost 30 pounds while on this diabetic diet. Her blood pressure was 210/90, otherwise her general physical examination was relatively normal. Pelvic examination showed a small movable uterus and a four cm. mass to the left of the uterus. All laboratory work was normal except the glucose tolerance test which was of the diabetic type.

On March 22 a biopsy revealed carcinoma of the uterus and on March 28 she received 3000 mgm. hours of radium therapy, and again on April 9 she received another 3000 mgm. hours of radium. She was readmitted on May 26 for total hysterectomy and bilateral salpingo-oophorectomy. At operation the palpable mass on the left was a small benign cyst of the left ovary. Her postoperative course was uneventful, with the exception of a moderate cystitis, and she was dismissed in good condition to be followed carefully.

Dr. Boley: Since the endometrial biopsy shows fairly cellular stroma with acini of irregular size and shape, a diagnosis of adenocarcinoma was made. Examination of the uterus removed surgically shows effects of radiation but no definite cancer.

Dr. Calkins: This patient is interesting and fairly typical of the kind of problem we have in dealing with adenocarcinoma of the uterus. The average age of patients with adenocarcinoma of the uterus in this clinic is 59 and a great many are considerably older. Such therapeutic problems are magnified because one is dealing with hypertensive cardiovascular disease, nephritis, and often marked obesity, and to do a complete operation is a shock to the patient. In the treatment of carcinoma of the body of the uterus, surgery is much superior to roentgen

therapy although in the patient who is completely unsuited for surgery, radium and x-ray are substitute forms of treatment which should be tried. As in this patient, the effect of the radiation therapy is certainly marked and possibly she was cured by it. On the other hand, we have had several patients who had smaller uteri and more radiation than this patient, but at operation their uteri were filled with active carcinoma.

It is a strange fact that a carcinoma of the body of the uterus arising only a centimeter above the internal os of the cervix should by all means be operated upon, whereas a carcinoma of the cervix arising one centimeter below the internal os is best treated by radiation. There are several reasons for this strange fact. One is that 97 per cent of the cervical carcinomas are of the squamous cell type, whereas almost all the carcinomas of the body of the uterus are adenocarcinomas. It is not true, as was formerly thought, however, that all adenocarcinomas are unresponsive to radiation, whereas squamous cell growths are all radio-sensitive.

The principal reason surgery gives such good results in carcinoma of the body and such poor results in carcinoma of the cervix is that a carcinoma of the cervix, with its different vascular and lymphatic drainage, tends to metastasize earlier than does a carcinoma of the body of the uterus. The cure rate in this hospital for carcinoma of the cervix is scarcely over 30 per cent, whereas, in carcinomas of the body of the uterus, in those operated upon, it is considerably over 60 per cent and almost 60 per cent when treated by radiation.

Dr. Helwig: Sometimes we see adenocarcinomas in which it is impossible to be certain whether they arise in the lower uterine segment and involve the cervix secondarily, or whether they are primarily cervical. Dr. Calkins, what do you do under those circumstances?

Dr. Calkins: I treat them as cervical tumors.

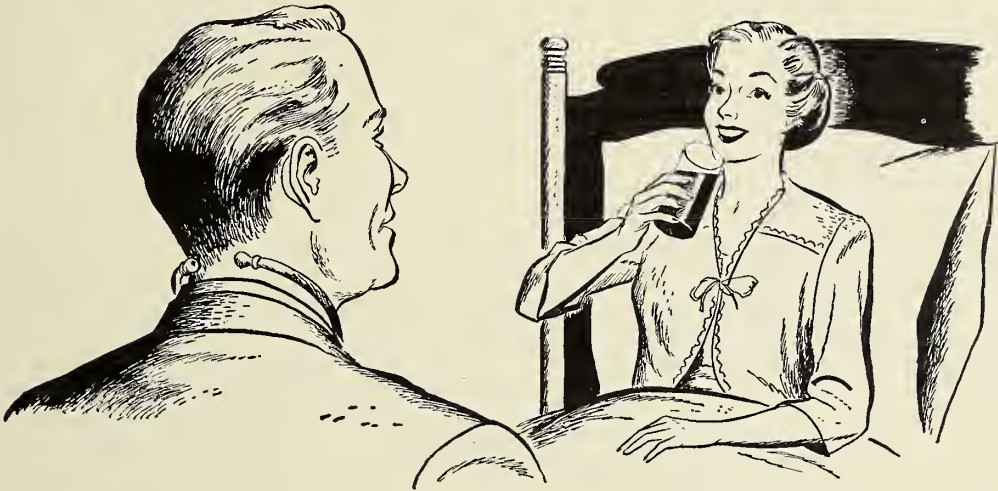
Dr. Helwig: How do you feel about prolonged menstruation, therapeutic radiation for benign bleeding and prolonged administration of estrogenic substances as possible etiological factors in the development of carcinoma of the corpus of the uterus?

Dr. Calkins: We don't know too much about any of those things. Carcinoma of the body of the uterus is more common in women who have had hyperestrinemia throughout their active sex life. It is difficult to see just how that brings about the carcinoma since it does not develop until after she has passed the menopause. The incidence of carcinoma

\*Cancer teaching activities aided by a grant from the National Cancer Institute.

# REGARDLESS OF INDICATED THERAPY

## *Nutrition is a Primary Factor*



Whether the condition under treatment is an acute infection, a bowel upset, an injury or a metabolic derangement, nutrition is always a primary factor in therapy. Regardless of other indicated measures, nutritional adequacy is essential for prompt recovery.

When dietary supplementation is the indicated means of increasing the nutrient intake, the food drink, Ovaltine in milk, can prove highly beneficial. Pro-

viding significant amounts of all nutrients considered essential, it virtually assures dietary adequacy when the recommended three glassfuls daily are taken in conjunction with even a fair diet.

Temptingly delicious and readily digested, this dietary supplement fits well into the framework of most indicated diets, and finds ready patient acceptance. Its generous nutrient content is detailed in the table below.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILL.

## *Ovaltine*

Three servings of Ovaltine, each made of  
 $\frac{1}{2}$  oz. of Ovaltine and 8 oz. of whole milk,\* provide:

PROTEIN . . . . .	32 Gm.	VITAMIN A . . . . .	.3000 I.U.
FAT . . . . .	32 Gm.	VITAMIN B <sub>1</sub> . . . . .	1.16 mg.
CARBOHYDRATE . . . . .	65 Gm.	RIBOFLAVIN . . . . .	2.0 mg.
CALCIUM . . . . .	1.12 Gm.	NIACIN . . . . .	6.8 mg.
PHOSPHORUS . . . . .	.094 Gm.	VITAMIN C . . . . .	30.0 mg.
IRON . . . . .	12 mg.	VITAMIN D . . . . .	417 I.U.
COPPER . . . . .	0.5 mg.	CALORIES . . . . .	676

\*Based on average reported values for milk.

Two kinds, Plain and Chocolate Flavored. Serving for serving, they are virtually identical in nutritional content.





of the uterus is much higher in women who have fibroids in their uteri than in other women. It is controversial whether previous administration of radium or x-ray causes a tendency for the uterus to develop a carcinoma later.

Dr. Helwig: I frequently see typical estrogenic endometrial hyperplasia with a history of bleeding following therapy with little white pills obtained from the druggist.

Dr. Newman: As yet there is no proof that estrogens are a carcinogenic agent in the human. They can produce carcinoma in some animals. During the past few years, there are examples of cases in the literature where the patient received large doses of estrogen during a long period of time and subsequent to that treatment developed carcinoma either of the cervix or of the body of the uterus.

I think the first case of that type to appear in the literature was one reported in July, 1946.<sup>1</sup>

In this particular instance the woman had received a bilateral ovariectomy at an early age and subsequent to that time over a period of 16 years had been subjected to estrogenic therapy and developed adenocarcinoma of the body of the uterus. One can argue whether she might have developed it if she had never had the estrogens. There are several instances in the literature<sup>2</sup> where carcinoma of the breast has occurred following estrogenic therapy. There are even two or three instances<sup>2</sup> of carcinoma of the cervix in which one might suspect that the patient had developed a carcinoma following estrogenic therapy.

Although the matter is not yet settled, I deplore such estrogen therapy in women past 35 because in a review of the cases in this hospital on whom we have done curettements for post-menopausal bleeding, we discovered that at least one-third of those curettements were required because the patient developed bleeding subsequent to estrogenic therapy. One must do a curettement on these patients when they develop their bleeding, and if one keeps in mind the fact that estrogen is a growth stimulating hormone, and as long as there is an endometrium, it is going to react to estrogen be that patient 35 or 85. If you look at that endometrium under the microscope after prolonged estrogenic therapy you will become convinced that it is not good treatment.

Dr. Helwig: What is the relationship of hyperplasia to carcinoma of the endometrium, and is hyperplasia a pre-cancerous lesion?

Dr. Boley: Dr. Hertig<sup>3, 4</sup> followed a series of cases of carcinoma of the uterus that had been biopsied as long as 1-23 years previously. Most of these patients with carcinoma showed hyperplasia, atypical change and loss of the stroma from six to 13 years before their carcinomas developed. The inverse of this statement that those who have atypical

hyperplastic endometria develop carcinoma is not established.

Student: Does adenocarcinoma of the cervix metastasize as early as squamous cell carcinoma of the cervix?

Dr. Calkins: In my experience, even earlier.

Dr. Helwig: Adenocarcinoma of the cervix is relatively infrequent as compared with squamous cell carcinoma. There are about 10 times as many squamous cell carcinomas of the cervix as adenocarcinomas of the body and about 10 times as many adenocarcinomas of the body as adenocarcinomas of the cervix.

#### Tumor Conference Case No. 50-53

History: G. K., a 60-year-old white married woman, entered the hospital on June 9, 1950, complaining of vaginal bleeding of varying amounts for six months and a weight loss of 10 pounds in the six weeks before admission. She had noted a progressively enlarging abdominal mass during the several years before admission and her physician told her she had fibroids of the uterus. Pelvic examination showed a tumor the size of a billiard ball, pedunculated, bleeding, necrotic and protruding through the cervix. Her temperature ranged to 103 degrees. On June 14, 1950, the pedunculated growth was removed and the biopsy report was sarcoma. Accordingly, the patient was later subjected to a complete hysterectomy and salpingo-oophorectomy. At operation, an ovarian tumor was present that was attached to the fundus of the uterus and there were multiple peritoneal implants.

Dr. Boley: The biopsy shows a cellular tumor composed of spindle shaped cells with abundant mitotic figures. The endometrium and one of the small implants taken from the peritoneum at the second operation are composed of the same type of sarcomatous cells. The ovarian tumor is cystic and contains calcified, laminated masses, psammoma bodies, which are frequently found in ovarian tumors. We are dealing with two tumors in this individual, one an endometrial sarcoma that has implanted over the peritoneal surface, the other a cystadenocarcinoma of the ovary which has invaded into the myometrium especially at the area of attachment.

Dr. Calkins: Sarcomas which develop as degenerative processes in previously existing fibromyomas are cured in a high percentage of cases. On the other hand, sarcomas developing independently in the endometrium have a very poor prognosis. If anyone is able to cure a single case in a lifetime he has done well. Dr. Boley tells us this is a sarcoma of the endometrium. We questioned doing a complete operation on this patient as she had a sarcoma of the endometrium with implants

## A urinary tract infection

Resistant to "... all available antibiotics and chemotherapeutic agents."<sup>1</sup>

### TREATED WITH TERRAMYCIN

M.F., male, age 48

**History:** Pyelonephritis, 1½ years' duration following ureterocutaneous implants (mixed infection: *P. vulgaris*, *E. coli*, *Staph. albus*, enterococci); previous therapy with all available antibiotics and chemotherapeutic agents without response.

**Therapy:** Terramycin, 2 Gm. daily for 5 days; orally in divided doses q. 6 h.

**Result:** Urine culture negative except for *P. vulgaris* by 2nd day of treatment. Response described as "good".

# CRYSTALLINE Terramycin HYDROCHLORIDE

New Council-accepted broad-spectrum antibiotic  
orally effective — well tolerated



1. Terramycin may be highly effective even when other antibiotics fail.<sup>1</sup>
2. Terramycin may be well tolerated even when other antibiotics are not.<sup>2</sup>

**suggested for:** acute pneumococcal infections, including lobar pneumonia, bacteremia; acute streptococcal infections, including erysipelas, septic sore throat, tonsillitis; acute staphylococcal infections; bacillary infections, including anthrax; urinary tract infections due to *E. coli*, *A. aerogenes*, *Staphylococcus albus* or *aureus*, and other Terramycin-sensitive organisms; acute brucellosis (abortus, melitensis, suis); hemophilus infections; acute gonococcal infections; lymphogranuloma venereum; granuloma inguinale; primary atypical pneumonia; typhus (murine, epidemic, scrub); rickettsial pox.

**Dosage:** 2 to 3 Gm. daily by mouth in divided doses q. 6 h. is suggested for acute infections.

**Supplied:** 250 mg. capsules, bottles of 16 and 100;  
100 mg. capsules, bottles of 25;  
50 mg. capsules, bottles of 25.

1. King, E. Q.; Lewis, C. N.; Welch, H.; Clark, E. A., Jr.; Johnson, J. B.; Lyons, J. B.; Scott, R. B., and Cornely, P. B.: *J. A. M. A.* 143:1 (May 6) 1950.  
2. Herrell, W. E.; Heilman, F. E.; Wellman, W. E., and Bartholomew, L. A.: *Proc. Staff Meet. Mayo Clin.* 25:183 (Apr. 12) 1950

## Pfizer

Antibiotic Division

CHAS. PFIZER & CO., INC., Brooklyn 6, N. Y.



evident at the time of operation. I feel, however, that if the patient can tolerate the operation it should be done because with a complete operation and careful postoperative radiation one might sometime cure a patient.

Dr. Helwig: I can't agree with Dr. Calkins. My experience with uterine sarcoma, be it endometrial or arising in a fibroid, has been disappointing. I think one reason for the disparity of figures on this subject is that quite active and highly cellular myomas have frequently been classified as sarcomas when they were benign.<sup>5</sup> When we see wild, unqualified sarcomatous transformation in a fibroid, the outlook in my experience has been bad, although trying to do something for the patient is certainly justified. I've known of a few patients with bloody ascites from bilateral cystadenocarcinoma of the ovary in whom definite implants were present, and the simple removal of the bilateral growth resulted in a spontaneous involution of the implants. The few sarcomas I have seen irradiated have not responded.

Dr. Boley: McFarlane<sup>6</sup> has reviewed 42 cases of sarcoma of the endometrium. His five-year arrests were poor. Among those from 1939 to 1944, all were dead before his paper was written. Previous to that time there were only 75 per cent fatalities, and some may question whether all the survivors originally had malignant tumors. When they are large enough to produce symptoms, it is often difficult to tell whether such tumors arise from the myometrium, endometrium or stroma of blood vessels.

#### References

1. Fremont-Smith, M., Meigs, J. V., Graham, R. M., and Gilbert, H. H., Cancer of the Endometrium and Prolonged Estrogen Therapy, *J.A.M.A.*, 131:805-808 (July 6) 1946.
2. Newman, Robert L., Stilbesterol Medication, *J. Kansas Med. Soc.* 49:10-13 (January) 1948.
3. Hertig, A. T., and Sommers, S. C., Genesis of Endometrial Carcinoma, *Cancer*, 2:946 (November) 1949.
4. Sommers, S. C., Hertig, A. T., and Bengloff, H., Genesis of Endometrial Carcinoma, *Cancer*, 2:557 (November) 1949.
5. Novak, E., and Anderson, D. F., Sarcoma of the Uterus, *Am. J. Ob. and Gyn.*, 34:740-762 (November) 1937.
6. McFarlane, K. T., Sarcoma of the Uterus, *Am. J. Ob. and Gyn.*, 59:1304-1321 (June) 1950.

#### Survey of Membership

A survey of the membership of the Kansas Medical Society is presented in outline form in a recent A.M.A. release, based on information compiled for the 1950 directory of physicians. In this release physicians are classified according to type of practice and listed in totals for the state as a whole and for each county.

The tabulation shows 2,039 physicians in Kansas and 1,524 members of the Kansas Medical Society, 855 of whom are fellows of the A.M.A. General practice, defined as practice by those not listing a specialty when furnishing directory information, occupies the attention of 837. Practice is limited to

a specialty by 450. There are 319 who give special attention to a specialty but do not so limit their practices. Hospital services are administered by 259 physicians and government services by 47. The chart shows 25 Kansas physicians not in private practice and 102 who have retired or are not practicing.

Figures for the country as a whole, the United States and dependencies, are as follows: total number of physicians, 202,683; members of component county societies, 145,517; fellows of the A.M.A., 78,871; general practice, 73,724; practice limited to specialty, 55,298; special attention to specialty, 23,331; not in private practice, 6,716; retired or not in practice, 9,732; hospital service, 29,378; government services, 4,504.

#### Policy on Military Hospitals Changes

The VA will discontinue sending VA patients to the majority of military hospitals in continental United States, except in emergencies, according to a recent announcement by the Department of Defense and the VA. This has been necessitated by increasing requirements for medical personnel in the Korean military operation, the flow of military casualties from that area to the United States, and the rapid expansion of military forces in this country.

Army hospitals will continue to care for veteran patients now hospitalized. It is expected that normal attrition through discharge of these patients upon completion of treatment will remove practically all of them from Army hospitals within six weeks.

Agreement has been reached between the VA and the Department of Defense to make an exception of tuberculosis beds at Fitzsimons General Hospital, where the VA has 325 patients. The exception was granted because of the greatly increased load of tuberculosis patients the VA is required to care for because of recent laws liberalizing service-connection for World War II veterans and an executive order requiring the VA to care for retired military and naval personnel suffering from chronic diseases.

#### Medical Film Available

A new medical film, "The Male Sex Hormone," second of a series on endocrinology produced for Schering Corporation, is now available to medical groups throughout the country. Running 24 minutes, the film presents the physiology and the clinical aspects concerned with hormone interaction in the male. Applications for showing the film may be addressed to Medical Service Department, Schering Corporation, 2 Broad Street, Bloomfield, New Jersey.

*Your* **LABORATORIES**  
*Our* **RESPONSIBILITY**

CLINICAL PATHOLOGY  
PATHOLOGIC ANATOMY

**DUNCAN LABORATORIES**

*Established 1921*

909 Argyle Bldg. **KANSAS CITY 6, MO.**

230 Frisco Bldg. **JOPLIN, MISSOURI**

RALPH EMERSON DUNCAN, M.D.

In addition to diagnostic laboratory services, chemically accurate and clinically tested reagents, solutions, stains and culture media are available for immediate delivery.



---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the 14th of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### The Hoover Report

The Commission on Organization of the Executive Branch of the Government, known as the Hoover Commission, recommended many alterations under a variety of headings. One deals with federal medical services. Certain proposals in this section of the report have been misconstrued to give them a meaning almost opposite to what apparently was intended. This section of the Hoover Commission report is summarized below to give the physician accurate information on this important and frequently controversial topic.

Early in 1949, the federal government was assuming varying degrees of medical care for 24 million persons—one-sixth of the total population. Of this number 18.5 millions were veterans. Some 46 federal agencies were spending 1.25 billions for health and medical services, an increase of 500 per cent over the amount spent in 1940 and a 20 per cent increase over 1947. The Veterans Administration alone spent as much in 1949 as all 46 agencies spent in 1948.

The Veterans Administration operates more than 100,000 hospital beds and estimates that 300,000 will be needed by 1980, even if there are no further wars. Even now medical manpower cannot be obtained to staff the current facilities. It was found, by way of example, that there are 13 federal hospitals in the San Francisco area, having a total of 9,900 beds. Proper integration of these hospitals would permit the closing of seven, and even after transferring those patients, the remaining six hospitals would be only 54 per cent occupied.

The current Veterans Administration hospital building program will cost 1.1 billions at a per bed rate of \$20,000 to \$50,000, while private hospital construction is estimated to cost \$16,000 per bed or less. Moreover, the Veterans Administration program is poorly planned, often containing elaborate recreational facilities which cannot be utilized by bed patients. Many hospitals are planned for locations in areas where it is known that it will be difficult, if not impossible, adequately to staff them.

The average patient's stay in government hospitals is two or three times as long as the average stay in private hospitals for comparable conditions.

The commission found that a person undergoing an appendectomy in a voluntary general hospital stayed an average of 7.8 days while in a Veterans Administration hospital the average stay, for the same operation, is 14.3 days.

It is stated that the federal obligation of persons being cared for is not clearly defined. For example, 900,000 dependents of army and air force personnel are being given complete medical care, virtually free of charge, on no basis other than a provision which appeared in an appropriation act over 60 years ago, authorizing medical officers to care for dependents "whenever practicable." A law authorizes veterans with non-service connected disabilities to go to a veterans' hospital only if a bed is available and if the veteran makes a statement to the effect that he is unable to pay for the cost of such care. It was found by the Hoover Commission that "100,000 Veterans Administration hospital beds have been built or authorized which serve no purpose except deliberately to make beds available for non-service connected cases." The pauper's oath was found to be loosely applied. The veteran was considered to be unable to pay if that question on his report was left unanswered.

The Hoover Commission also made a number of recommendations regarding medical problems, of which only a few will be outlined here. The commission recommends that there shall be established a United Medical Service as an independent administration of the government. It should be headed by a professional career director general and should have at least three main divisions: (1) Medical Care, (2) Public Health, (3) Research and Training.

Under the medical care section should come the operation of all general hospitals of the armed forces and all Veterans Administration hospitals with the exception that each branch should retain one teaching and research hospital and all their overseas establishments. The federal hospital program should be integrated with private hospital construction to prevent overlapping and disastrous competition. Regarding beneficiaries, the commission recommended that all services should be governed by the same policy. If medical care for dependents is to be given, it should be thought of as added pay. If this is the purpose, and care for dependents is given for acute conditions, the commission recommends that the government pay the cost of this care to community facilities or provide health insurance in a non-profit insurance plan for such dependents. With reference to veterans with non-service connected conditions, services should be provided in federal or community facilities, whichever can give this service more efficiently. The question of how much the govern-

# AUREOMYCIN<sup>®</sup> CRYSTALLINE

## in Tularemia

*Tularemia, which is a serious problem in many parts of this country, can be successfully treated with aureomycin.*

*All types of tularemic infection, with or without complications, respond promptly to the administration of this antibiotic.*



**A**UREOMYCIN has also been found effective for the control of the following infections: acute amebiasis, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, acute brucellosis, common infections of the uterus and adnexa, resistant gonorrhea, Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), Gram-negative infections (including those caused by the coli-aerogenes group), granuloma inguinale, *H. influenzae* infections, lymphogranuloma venereum, primary atypical pneumonia, psittacosis (parrot fever), Q fever, rickettsialpox, Rocky Mountain spotted fever, subacute bacterial endocarditis resistant to penicillin, surgical infections, tick-bite fever (African), and typhus.

**Capsules:** Bottles of 25, 50 mg. each capsule. Bottles of 16, 250 mg. each capsule.

**Ophthalmic:** Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.



ment owed its veterans is not the function of the commission, but it also suggested the utilization of insurance to cover those persons. It further recommends that one hospital in an area can serve the members of all branches of the armed forces rather than setting up separate hospitals for each. The report states that "this radical departure from traditional functions is proposed, not merely to save money, but also it is the only means by which high cost care can be maintained with the present shortage of doctors in federal service. Furthermore, it would provide better medical protection in time of war."

Among other points was the recommendation for a unified medical supply system and the necessity for strong controls to protect the public against "uninhibited expansion of federal medical expense..." Also under consideration came the question of federal aid to medical education. More study was recommended before any suggestions should be made. The primary interest, however, came under the heading of research. This is mentioned repeatedly in the report as shown in the following excerpts: "We must not just treat patients. We must, and to a large degree we can, if we will, control disease... Transcending in importance any of our other recommendations, is the need to outflank disease by giving the highest priority to research, preventive medicine, public health and education."

### Red Cross Accepts Military Request

The American Red Cross has accepted a request by the Secretary of Defense that it become the official agency for the procurement of blood for the armed forces when such blood and its derivatives are needed. At present 34 regional blood centers and 46 mobile units are operating in the Red Cross blood program, collecting approximately 63,200 pints of blood per month for civilian use. They are serving more than 1,900 hospitals in 38 states, and are so established that they can be swung immediately into high gear in event of a national emergency. The regional blood center in this locality is at Wichita.

### Model Law for Mental Hospitalization

A model law covering procedures for hospitalizing persons who are mentally ill has been prepared by the Federal Security Agency at the request of the National Advisory Mental Health Council, according to an announcement from the agency. It is designed to protect the rights and health of mentally ill patients. Copies have been sent to the governors of all states with a suggestion that they be made available to legislative bodies.

The Federal Security Agency Press Service or the National Institute of Mental Health, Public Health Service, Bethesda 14, Maryland, will supply copies of the model law on request.

---

## COUNTY SOCIETIES

---

The first fall meeting of the Shawnee County Medical Society was held at the society offices September 5. Mr. Harvey T. Sethman, executive secretary of the Colorado State Medical Society, was guest speaker. He discussed the formation and operation of grievance committees.

\* \* \*

The Lyon County Society held its first meeting of the fall on September 5. Dr. Albert N. Lemoine, Jr., Kansas City, Missouri, spoke on "The Red Eye."

\* \* \*

The Southeast Kansas Medical Society met September 13 at Coffeyville with members of the Montgomery County Society as hosts. The following officers were elected: president, Dr. F. A. Moorhead, Neodesha; secretary-treasurer, Dr. C. E. Stevenson, Neodesha. A paper on allergic diseases was presented by Dr. O. R. Withers of the University of Kansas Medical Center.

\* \* \*

Members of the Cowley County Society were guests of the Kay-Noble Society in Ponca City, Oklahoma, at a dinner meeting last month. Three speakers from the Oklahoma Research Foundation, Oklahoma City, presented the scientific program.

## DEATH NOTICES

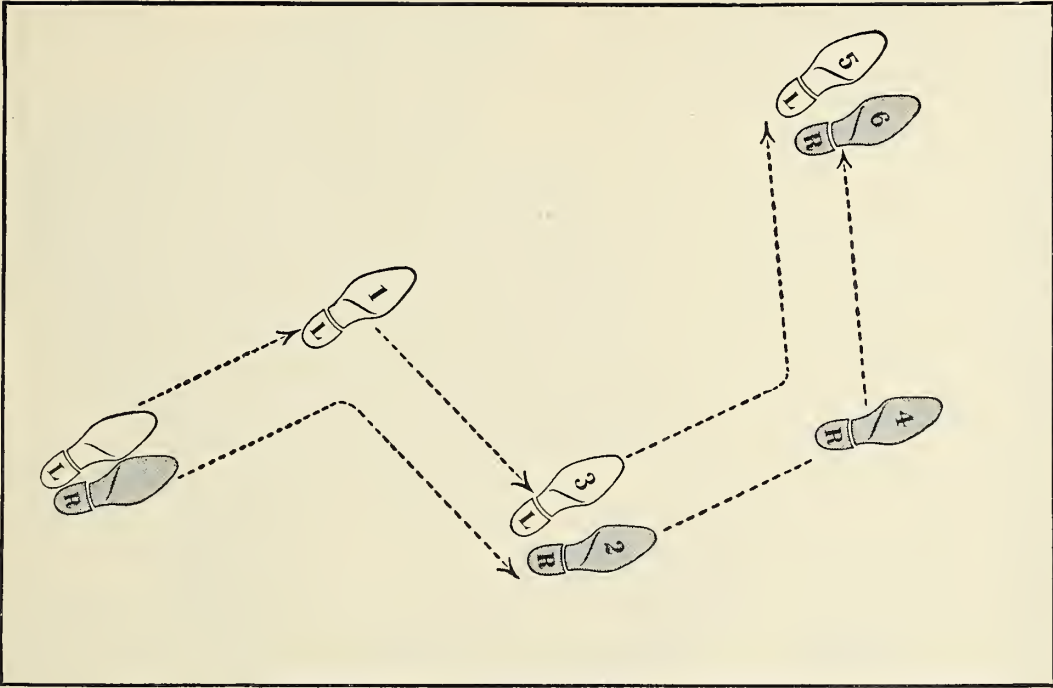
### CHESTER LEROY PATTON, M.D.

Dr. C. L. Patton, 77, an active member of the Lyon County Society, died August 27 at his home in Emporia after suffering a coronary thrombosis. A graduate of Ensworth Medical College, St. Joseph, Missouri, in 1904, Dr. Patton first practiced in the Indian territory now a part of Oklahoma, and later at Olpe. In 1926 he moved to Emporia and continued to practice there until his death, specializing in obstetrics.

\* \* \*

### WILLIAM HENRY ELKINS, M.D.

Dr. W. H. Elkins, 83, an honorary member of the Shawnee County Society, died at his home in Topeka September 1. He had served as surgeon at the Santa Fe Hospital in Topeka from 1920 until 1945, when he retired. He was a graduate of Barnes Medical College, St. Louis.



It only takes a few minutes to learn  
the right steps!



DANCING IS EASY—once you learn what steps to take.

The same holds true for saving money for the future.

It will take approximately two minutes to find out how you can invest in either one of the two *automatic* plans offered by U.S. Savings Bonds.

Inquire at your place of business about the Payroll Savings Plan. Learn how easy it is to put aside savings for Bonds right from your paycheck.

Or, if you have a checking account,

ask at your bank. They'll explain all about the Bond-A-Month Plan, in which you use your checking account as a means for investing in U.S. Savings Bonds.

Both plans are simple, and call for no effort on your part.

Both plans add up to the same thing—money to live on in the future.

**So start finding out about them.** Remember, it only takes two minutes today to learn how you can make your tomorrows a lot more carefree!

Automatic saving is sure saving—U.S. Savings Bonds

Contributed by  
**CAPPER PRINTING CO., Inc.**  
912 Kansas Avenue  
TOPEKA, KANSAS





---

## BLUE SHIELD

---

### Telling the Blue Shield-Blue Cross Story

It has been well established in business that any organization which wishes to sell its services and make them available to more people must continuously tell its story to the public. In spite of the many criticisms of American advertising it is generally held that without widespread advertising of services and products our American economy would not have developed as rapidly as it has.

In the early stages Blue Shield-Blue Cross plans throughout the country were reluctant to make expenditures for advertising. Even as late as 1945 the issue of advertising by plans was still controversial and only a few plans at that time had embarked upon any program of paid space. In the last few years, however, one plan after another has come into the fold of using paid advertising to tell its story to the public. It is believed that a well planned program of advertising for Blue Shield-Blue Cross results in more widespread enrollment, lowering of enrollment costs and a better general understanding of the plans by the public.

In Kansas paid advertising has been used by Blue Shield-Blue Cross for quite a few years. Out of this background there has been developed a consistent policy of regular institutional advertisements which appear, at present, once each month in some 125 daily newspapers throughout the state. In addition to the institutional program Blue Shield-Blue Cross utilize paid space for all of the community enrollment campaigns conducted in the counties and cities.

In recent months the advertising program of Blue Shield-Blue Cross has been built around seven or eight major themes. Each ad headlines one of the major themes and introduces some of the other themes as subsidiary parts of the ad. These major advertising themes are as follows:

1. Physicians and hospitals support an endorsement of the plans.
2. Emphasis on the flexibility of Blue Shield-Blue Cross in meeting real need rather than providing limited cash payments.
3. A voluntary solution to the financing of health care rather than a governmental solution.
4. Equal protection for all members of the family.
5. The privilege of a Blue Shield-Blue Cross member to continue his protection after he leaves his place of employment.
6. Non-profit operation with low operating overheads.
7. The frequency of the need for hospitalization—one family in three has hospital-medical bills each year.

8. Emphasis on the aim of Blue Shield-Blue Cross to protect the member against the larger bills rather than the merely average bills.

As stated above several of these themes are worked into each advertisement. However, the headline of the advertisement stresses one theme at a time. For example, in a recent ad which was designed to show the public that Blue Shield-Blue Cross helps to meet major expenses the headline on the advertisement read: "My doctor said I had to have an operation." The sub-headline in the ad was devoted to showing that Blue Shield-Blue Cross paid substantial amounts of the total bills of the hospital and the doctor.

Another ad on this theme was headlined: "The doctor ordered laboratory and penicillin." The story in the ad went on to show that the Blue Shield-Blue Cross member need not worry about expensive laboratory services, penicillin, aureomycin, oxygen and other special services of the hospital.

In community enrollment advertising, carried on during the enrollment period of an active campaign, a key ad is the one sponsored by local county medical societies. A headline of one of the ads used in the Topeka enrollment was as follows: "What do doctors think of Blue Shield (A Message from the Shawnee County Medical Society)."

The institutional program which includes an ad each month is timed so that the ad appears between the first and tenth of any month. It is believed that this reminder of the value of Blue Shield-Blue Cross helps to resell membership as well as to pre-sell potential new members.

During the summer months Blue Shield-Blue Cross ran an ad based upon the polio protection offered by the plans. The polio ad resulted in a considerable amount of comment and the ad was reproduced in full in news bulletins and on bulletin boards by many of our groups. The ad stressed the fact that Blue Shield-Blue Cross provide the same protection against polio as they provide against any other illness requiring long hospitalization. The copy in the ad used some figures supplied by the Kansas State Board of Health informing people of the frequency of polio, and it also stated the amount Blue Shield and Blue Cross had paid for polio during the preceding year.

It is the frequent complaint of physicians that Blue Shield-Blue Cross members fail to understand completely the benefits to which they are entitled and that many are under the impression that the services are greater and broader than they actually are. It is clear that some people will always misunderstand whatever statements are made, either oral or written. The policy of the plans has been to state all services and limitations as clearly as possible both



**at  
face  
value**

PRIODAX cholecystograms can be accepted at face value. A diseased gallbladder visualizes faintly or not at all. With PRIODAX, a poor shadow means lack of ability to concentrate the contrast medium. Because PRIODAX is well tolerated, the likelihood of loss through the gastrointestinal tract by vomiting or diarrhea is minimal. Thus interpretation is made simpler and more certain.

# PRIODAX<sup>®</sup>



(brand of iodoalphonic acid)

PRIODAX, Schering's brand of iodoalphonic acid, is available in tablets of 0.5 Gm. Envelopes of six tablets in boxes of 1, 5, 25 and 100 envelopes; and Hospital Dispensing Package containing 4 rolls of 250 tablets each.

*Schering*

CORPORATION • BLOOMFIELD, NEW JERSEY



PRIODAX



in our literature passed out to potential members and in meetings with potential members. Nevertheless, many people will try to read into the written contract an interpretation favorable to themselves. It is difficult for a person expecting benefits to be unbiased as to what he thinks he should receive. Every effort is made to improve this situation through a widespread educational program, a part of which is the advertising we have been discussing. We believe that most doctors will understand first that it is necessary to present Blue Shield-Blue Cross services in a positive, attractive manner. Therefore, our ads will necessarily present the beneficial side of the Blue Shield-Blue Cross story. On the other hand by keeping the statements about the plans in balance with the available protection it is felt that there will be no cause for complaint against the tone and motive of the advertising program.

---

## ACTIVITIES OF MEMBERS

---

Dr. W. O. Nelson, Lawrence, was elected chairman of the board of the Bert Nash Mental Health Clinic at Lawrence recently. Dr. J. M. Mott was reappointed secretary of the group.

\* \* \*

Dr. Paul Schafer, chairman of the department of surgery at the University of Kansas School of Medicine, recently returned from a trip to Japan. He was one of ten specialists from this country sent to Japan to teach medical educators there the latest American techniques in the field of medicine.

\* \* \*

Dr. John B. Parmley, Wichita, has accepted a two-year residency at the Charity Hospital in New Orleans.

\* \* \*

\* \* \*

Dr. J. D. Gough, Chanute, has been appointed health officer of Neosho County, replacing Dr. J. N. Sherman, Chanute.

\* \* \*

Dr. Robert E. Hull, Sedan, formerly of Wichita, went to San Diego, California, last month to begin active duty at the U. S. Naval Hospital there. He had been practicing in association with Dr. L. Claire Hays in Cedar Vale and Sedan.

\* \* \*

Dr. Francis Stone, Fort Scott, reported at Fort Riley last month for assignment to active duty in the Army medical corps.

\* \* \*

The Hertzler Clinic, Halstead, announces that Dr. Robert P. Stoffer is now a member of the staff, specializing in internal medicine. He is a graduate of the University of Kansas School of Medicine and

until recently was serving in the medical department of the Navy.

\* \* \*

Dr. V. Dale Alquist, formerly of Wichita, is now at the Veterans Administration Hospital at Wadsworth.

\* \* \*

Dr. J. H. Enns has completed a residency in ophthalmology in Kansas City and has returned to practice in Newton.

\* \* \*

Dr. H. H. Jones, Sr., Winfield, addressed the Kansas Chapter of the American Association of Medical Record Librarians at a meeting in Winfield last month.

\* \* \*

Dr. Fred M. Tetzlaff of the Menninger Clinic, Topeka, has been called to active service with the Army and is awaiting orders.

\* \* \*

Dr. H. Wallace Lane, director of the Butler-Greenwood health department, has been granted a year's leave of absence for a graduate course in public health at Johns Hopkins Medical School, Baltimore. His work in Kansas will be taken over by Dr. Richard Reese, a 1949 graduate of the University of Kansas School of Medicine.

\* \* \*

Dr. Michael Scimeca, Caney, was principal speaker at a meeting of the Caney P.T.A. September 15. He spoke on "Immunization of the Grade School Child."

\* \* \*

Dr. Frank X. Lenski, Iola, announces that his son, Dr. Frank X. Lenski, Jr., is now associated with him in practice. The younger Dr. Lenski is a graduate of Northwestern University Medical School and was recently released from service with the Navy medical department.

\* \* \*

Dr. Austin J. Adams, Wichita psychiatrist who was called to active duty in the Navy recently, has received an indefinite deferment and has returned to Wichita.

\* \* \*

Dr. Gerhart R. Tonn, Wichita, delivered the address at graduation exercises for nurses at Wesley Hospital, Wichita, September 1.

\* \* \*

Dr. Shirley Clark, Topeka, who spent four years in the Army medical corps in World War II, re-

Dr. J. D. Colt, Sr., Manhattan, was the subject of a feature article published in the Board of Health news letter and in the Manhattan Mercury-Chronicle last month. Although he retired from practice several years ago, Dr. Colt has recently been active in fly and rat control programs in the city.

## *An Observation on the Accuracy of Digitalis Doses*

*Withering* made this penetrating observation in his classic monograph on digitalis: "The more I saw of the great powers of this plant, the more it seemed necessary to bring the doses of it to the greatest possible accuracy."<sup>1</sup>

To achieve the greatest accuracy in dosage and at the same time to preserve the full activity of the leaf, the total cardioactive principles must be isolated from the plant in pure crystalline form so that doses can be based on the actual weight of the active constituents. This is, in fact, the method by which Digilanid® is made.

*Digilanid* contains all the *initial* glycosides from *Digitalis lanata* in crystalline form. It thus truly represents "the great powers of the plant" and brings "the doses of it to the greatest possible accuracy".

*Clinical investigation* has proved that Digilanid is "an effective cardioactive preparation, which has the advantages of purity, stability and accuracy as to dosage and therapeutic effect."<sup>2</sup>

*Average dose* for initiating treatment: 2 to 4 tablets of Digilanid daily until the desired therapeutic level is reached.

Average maintenance dose: 1 tablet daily.

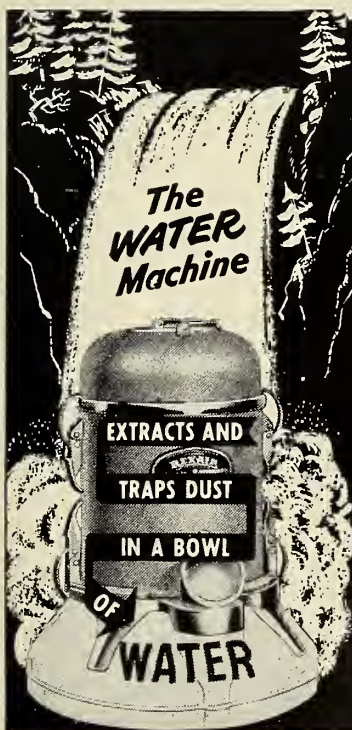
Also available: Drops, Ampuls and Suppositories.

1. *Withering, W.*: An account of the Foxglove, London, 1785.
2. *Rimmerman, A. B.*: Digilanid and the Therapy of Congestive Heart Disease, Am. J. M. Sc. 209: 33-41 (Jan.) 1945.

Literature giving further details about Digilanid and Physician's Trial Supply are available on request.

## *Sandoz Pharmaceuticals*

DIVISION OF SANDOZ CHEMICAL WORKS, INC.  
68 CHARLTON STREET, NEW YORK 14, NEW YORK



## **Rexair Traps Household Dust in Water**

**WASHES AIR, HUMIDIFIES, VAPORIZES, DOES ALL  
VACUUM CLEANING WORK, AND EVEN SCRUBS FLOORS!**

Water is the secret of Rexair's dust-filtering action. Rexair—and only Rexair—passes the stream of dust-filled air completely through a churning bath of water, discharging clean, humidified air into the room. Rexair direct factory sales and service branches are listed in phone books of principal cities of United States and Canada. Call your local branch or write direct to:

**REXAIR DIVISION, Martin-Parry Corporation**  
Box 964 MQ10 • TOLEDO, OHIO

➔ **EXCLUSIVE WITH Rexair**

Fully Guaranteed by a 69-Year-Old Company  
OVER 1,000,000 SATISFIED USERS



ported to Fort Warren, Cheyenne, Wyoming, October 13. He is assigned to duty at Lackland Army Air Base, San Antonio, Texas, with the rank of major.

\* \* \*

Dr. James E. Hill, who has been a member of the staff of the Hatcher Clinic, Wellington, for the past 10 years, has joined the staff of the Arkansas City Clinic. He will specialize in ophthalmology.

\* \* \*

Dr. G. W. Morgan, who has practiced in Savonburg for 37 years, was guest of honor at a community dinner there on September 17.

---

## THE KANSAS PRESS LOOKS AT MEDICINE

---

Bevan Dodge

A number of high officials in the British labor government, which put Britain's socialized medicine program into effect, do not use socialized medical facilities when they personally need a doctor's care, according to "Medicine Today and Tomorrow," organ of the British Socialist medical association.

The magazine made its statement while scolding Foreign Secretary Ernest Bevan for having two minor operations in a private hospital not operated by the health service. He preferred to pay his own bill rather than use the service set up for the general public.

"He is not the only person prominent in the Labor movement who has gone outside the national health service," said the magazine.—*El Dorado Times*, August 21, 1950.

\* \* \*

Not the Time

Even without the war in Korea, Congress has been cool toward Mr. Truman's welfare state ideas. With fighting on a limited scale in the Far East and the whole world situation a precarious one, it is pretty emphatic in its attitude toward social experiments at this time.

The House turned down by a rousing 249 to 71 vote a plan submitted by Mr. Truman to create a new department of health, education and security headed by Oscar Ewing, chief advocate of government medicine.

That vote is a body blow to the administration any direction in which it is viewed. Democrats have a majority in the House. The advantage simply faded into thin air when the roll was called on the health plan.

Ewing has been extremely vocal in his demands for a government medicine program. Opponents call it a plan of socialized medicine. Ewing himself isn't too sure what he want, except government con-

trol over doctors and patients alike. He first urged adoption of the British scheme of socialized medicine. That has worked so dismally, Ewing was forced to change his tune.

The American system of medicine isn't perfect. It is far better than anything else in the world. The chief complaint has not been against the standards of medicine, but the cost. Voluntary hospital and health insurance plans appear to be the best answer. They are growing by leaps and bounds, would grow more with encouragement from Washington.

The present condition of the federal treasury ought to be evidence that it is not possible to get something for nothing. There can be no "free" medical treatment without the taxes to go with it, and then it isn't free. Even in a most prosperous year, the treasury is spending more than it takes in and demands of the Korean war will put an even greater—and necessary—strain on the fiscal structure.

This is plainly no time for creation of new schemes to spend undetermined amounts of money merely to satisfy the whims and ambitions of those in Washington who want to perpetuate themselves in office. The country is in no mood for that, and neither is Congress.—*Parsons Sun*, July 12, 1950.

\* \* \*

Doctor Draft

The three services are far short of doctors and dentists enough to keep pace with their expanding size. The response to an appeal for volunteers has been almost nil. Conscription becomes a necessity in this circumstance and Congress is rushing through legislation to authorize it.

There are more than 6,000 young doctors in practice today who during and since the last war received a special obligation and obviously are the first who should be called. They should suffice for immediate mobilization needs.

Beyond that there are two ways of filling military requirements. One is to dip further into the civilian professional field. The other is to utilize the waste medical manpower already in the services.

The waste lies in the three separate medical and nursing corps maintained by the army, navy, and air force, respectively. Were those three services completely consolidated one MD in uniform would do the work to which two or three are now assigned.

The need for this consolidation has been recognized for several years and recommendations have been made for plans of action. Unfortunately nothing yet has been done. It will be argued that it is now too late to effect such a reform. With equal truth it can be stated that the time is so late we cannot afford not to do it.—*Chanute Tribune*, August 30, 1950.

You are never over a barrel when you use Quinton-Duffens accurate prescription service.

*Quinton-Duffens*  
INDEPENDENT  
OPTICAL COMPANY



## POSTGRADUATE COURSE IN OBSTETRICS, GYNECOLOGY AND PEDIATRICS

November 7, 8, 9 & 10, 1950

UNIVERSITY OF KANSAS MEDICAL CENTER, KANSAS CITY

### FACULTY

#### Guest Instructors:

**WILLARD R. COOKE, M.D.**, Professor of Obstetrics and Gynecology, University of Texas School of Medicine, Galveston, Texas.  
**OREN MOORE, M.D.**, Dean of Obstetrics, Southern Post-Graduate Seminar (Soludo, N. Carolino), Charlotte, N. Carolino.  
**NELSON K. ORDWAY, M.D.**, Associate Professor of Pediatrics, Louisiana State Medical School, New Orleans, Louisiana.

#### University of Kansas Faculty:

**LEROY A. CALKINS, M.D.**, Professor of Obstetrics and Gynecology.  
**KENNETH E. COX, M.D.**, Associate in Obstetrics and Gynecology.  
**THOMAS W. CRITCHFIELD, M.D.**, Associate in Obstetrics and Gynecology.  
**RALPH W. EDWARDS, D.D.S.**, Assistant Professor of Surgery (Dental).  
**HUBERT M. FLOERSCH, M.D.**, Assistant Professor of Obstetrics and Gynecology.  
**HAROLD L. GAINEY, M.D.**, Assistant Professor of Obstetrics and Gynecology.  
**THOMAS N. HALL, M.D.**, Assistant Professor of Pediatrics.  
**GEORGE V. HERRMAN, M.D.**, Assistant Professor of Pediatrics.  
**PAUL C. LAYBOURNE, JR., M.D.**, Associate in Pediatrics and Neuropsychiatry.  
**PAUL H. LORHAN, M.D.**, Clinical Professor of Surgery (Anesthesia).  
**GEOFFREY M. MARTIN, M.D.**, Lecturer in Pediatrics, Public Health and Preventive Medicine.  
**ROBERT H. MAXWELL, M.D.**, Lecturer in Obstetrics and Gynecology.  
**HERBERT C. MILLER, M.D.**, Professor of Pediatrics.  
**ROBERT L. NEWMAN, M.D.**, Assistant Professor of Obstetrics and Gynecology.  
**G. O'NEIL PROUD, M.D.**, Associate Professor of Otorhinolaryngology.  
**EDWARD RABE, M.D.**, Assistant Professor of Pediatrics and Instructor in Public Health.  
**PAUL W. SCHAFER, M.D.**, Professor of Surgery.  
**RAYMOND A. SCHWEGLER, M.D.**, Assistant Professor of Obstetrics and Gynecology.  
**WILLIAM L. VALK, M.D.**, Clinical Professor of Surgery (Urology).  
**HERBERT A. WENNER, M.D.**, Associate Professor of Pediatrics and Pathology.

### SUBJECTS TO BE DISCUSSED

**TELEVISION DEMONSTRATIONS:** Coesoreon Section, Pelvic Operation, Monikin Demonstration.

**GONOCOCCAL URETHRITIS AND CERVICITIS.**  
**ENDOMETRIOSIS.**  
**FIBROIDS.**

**CHRONIC VULVITIS** (Including Krourosis and Leukoplakia).  
**ANEMIA IN PREGNANCY.**

**MANAGEMENT OF THE THIRD STATE OF LABOR.**  
**BLEEDING DURING PREGNANCY.**

**HYPOTHYROIDISM IN PREGNANCY.**

**CAESAREAN SECTION.**

**MINOR COMPLAINTS IN PREGNANCY.**

**PREVENTION OF PREMATURE BIRTH AND TREATMENT OF PREMATURE INFANTS.**

**CLINICAL PATHOLOGICAL CONFERENCE.**

**OBSTETRIC ANALGESIA AND ANESTHESIA WITH SPECIAL REFERENCE TO THE CHILD.**

**PREVENTION OF NEONATAL INFECTIONS.**

**ERYTHROBLASTOSIS FETALIS.**

**THE TONSILLECTOMY PROBLEM.**

**PSYCHOLOGICAL ASPECTS OF SURGERY FOR CHILDREN.**

**PREOPERATIVE AND POSTOPERATIVE CARE FOR CHILDREN.**

**UROLOGICAL SURGERY IN CHILDREN.**

**ANESTHESIA FOR CHILDREN.**

**SURGICAL PROBLEMS IN THE NEWBORN.**

**EVALUATION OF EARLY IMMUNIZATION.**

**COMPLICATIONS OF MENINGITIS.**

**METABOLIC DISTURBANCES IN THE NEWBORN PERIOD.**

**ANOMALIES AND IRREGULARITIES OF THE TEETH.**

**CORTISONE TREATMENT OF RHEUMATIC FEVER AND RHEUMATOID ARTHRITIS.**

**PRESENTATION OF INTERESTING CASES.**



## ABSTRACTS FROM CURRENT LITERATURE

### Dorsal Spine Radiculitis

*Respiratory Manifestations of Dorsal Spine Radiculitis Simulating Cardiac Asthma.* By David Davis, *Ann. Int. Med.*, 32:5, 954-959, May 1950.

The author has written two previous articles dealing with this subject.

The present communication includes details of three typical cases. The following complaints were mentioned: shortness of breath, inability to breathe, breathing aggravates pain, inability to breathe deeply enough or at all, and choking sensation. It is pointed out that the patients frequently complain of inability to inspire or expire or of an awareness of breathing. Other phrases lifted from histories are: "My breathing is cut off," "I cannot take a deep breath," "My chest seems fixed... I find I must force myself to breathe." Most patients show no increase in respiratory rate. About 35 per cent of persons with radicular chest pain show simulations of respiratory distress at some time. Osteoarthritic spurs on the vertebrae are common observations in these persons. They frequently show spasm of muscles of the chest wall, and it is postulated that this may be related to the respiratory symptoms.

It is stated that recognition of the spinal origin of this symptom will not be difficult if its possibility is entertained. Cardiac and psychosomatic etiology should receive adequate investigation because they may coexist with radicular pain. Radicular pain is more apt to appear at rest in bed, and may be excited by thumping over appropriate vertebrae. A soft, sagging bed may aggravate it. Spinal traction and other orthopedic measures afford a therapeutic test. Bed boards are occasionally of benefit.

This reviewer is convinced that the importance of the subject has been underestimated in many cases.—P.W.M.

\* \* \*

### Acute Intestinal Obstruction

*Advances in Diagnosis and Treatment of Acute Intestinal Obstruction.* By Thomas A. Shallow, *Med.*, 7, 166-172, Mar. 1950.

The author attempts to show that the mortality in acute intestinal obstruction has decreased significantly in the past 15 years. He bases his observation on a statistical analysis of 225 cases encountered at the Jefferson Medical College Hospital, Philadelphia.

He believes that the decrease in mortality is largely due to the efforts of Dr. Owen Wangenstein in the management of the problem; however, he

does not entirely subscribe to the conservative management (namely Miller-Abbott suction) for a prolonged period. During the period of the past 10 years, he has gradually shifted to the opinion of Dr. L. A. McKittrick of Boston—that acute intestinal obstruction is an emergency problem.

He discusses the problem from the viewpoint of open-loop and closed-loop obstruction. In the former the incomplete, simple, and strangulated obstruction which usually occurs postoperatively while the patient is in the hospital is frequently successfully combatted by conservative measures. On the other hand, the complete intestinal obstruction which usually occurs months to years postoperatively and is due to fibrous band adhesions, constitutes the closed-loop obstruction. It is in this type of obstruction that delay results in necrosis, perforation and peritonitis.

In reviewing the symptoms, the history of initial colicky pain (with or without distention depending upon the site of obstruction) leukocytosis of 12,000 to 20,000, and the two most important findings of tenderness and rebound tenderness indicating local peritonitis, are paramount. There is an exception to the latter in the case of intussusception, where tenderness and rebound tenderness are late symptoms.

The problem of venous mesenteric thrombosis occurs as a secondary manifestation, particularly in biliary tract disease.

The greatest danger of delayed operation for acute intestinal obstruction is distention. The author prefers to follow the McKittrick plan, which consists of decompression until electrolytic and fluid balance are achieved, and antibiotics are administered when surgical measures are instituted. The author's chief reason for these conclusions is the delay of 24-72 hours entailed in passing the Miller-Abbott tube to the site of obstruction, and it is during this time that a strangulated bowel may become necrotic and perforate.

The author attributes the decrease of the mortality in his series to: (1) spinal anesthesia in the elderly patient, (2) preoperative fluid and electrolytic balance, (3) the use of antibiotics, and (4) early operation, using the Miller-Abbott tube decompression as an adjunct rather than definitive therapy.

He states, "It is easier to prevent than to cure; early operation minimizes the risks of embarrassing distention, strangulation, and necrosis of the bowel." —J.J.H.

November is election month. Remember to vote.

# THE Lattimore-Fink Laboratories

TOPEKA, KANSAS

J. L. Lattimore, A.B., M.D., *Director*

A. A. Fink, M.D., *Pathologist*

A. C. Keith, B.S., *Chemist*

H. C. Ebendorf, M.T., *Serologist*

L. A. Hull, A.B., *Bacteriologist*

**PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY,  
HEMATOLOGY AND PARASITOLOGY**

*Containers furnished upon request.*

## OFFICES:

Topeka, Kan.

El Dorado, Kan.

Sedalia, Mo.

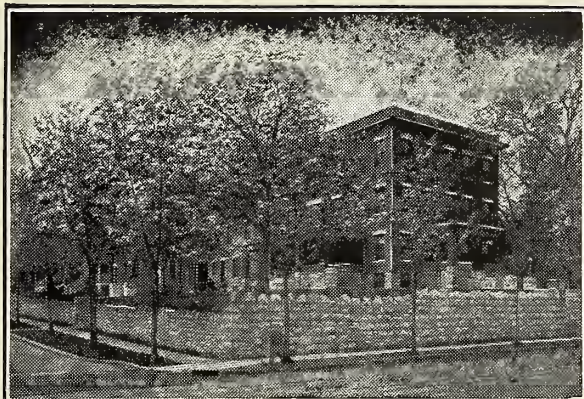
McAlester, Okla.

# THE MAJOR CLINIC ASSOCIATION

3100 EUCLID AVENUE

KANSAS CITY, MISSOURI

A Well  
Equipped  
Institution  
for the  
Nervous and  
Mental  
Diseases and  
Alcohol  
Drug and  
Tobacco  
Addictions



Beautiful  
Location  
Large,  
Well Shaded  
Grounds  
Spacious  
Porches,  
All Modern  
Methods for  
Restoring  
Patients to a  
Normal  
Condition

**Elderly People Accepted — Special Rates**

**HERMON S. MAJOR, M.D.**  
*Medical Director*

**HERMON S. MAJOR, JR.**  
*Business Manager*



---



---

## BOOK REVIEWS

---



---

*Techniques in British Surgery. Edited by Rodney Maingot. Published by W. B. Saunders Company, Philadelphia. 734 pages, 473 figures. Price \$15.*

This book comprises a number of specially selected articles on surgical subjects. It is written by 29 leading English surgeons and edited by Rodney Maingot, surgeon of the Royal Free Hospital, London, England. It is distinctly British, reflecting the thoughts and practices of the contributors. Reference is made to the work of experienced surgeons of other countries in various fields, but the content relates primarily to the personal experiences of the selected authors. It is interestingly presented for easy reading.

Its four broad sections (Head, Neck and Spinal Cord; Thorax; Abdomen and Pelvis; and Extremities) represent the only semblance of organization in the book. Under each section are listed chapters ranging in variance from cysts of the epididymis to thymectomy for myasthenia gravis. From a practical viewpoint, some common surgical procedures are omitted; i.e. gall bladder surgery, although its treatment of inguinal hernia is good. Therefore, it cannot be used as a general reference book. The chapters on thyroid surgery, congenital defects of the heart, cardiospasm, aseptic intestinal anastomosis and bone transplants are well set down and indicate also the varied topics included.

The emphasis is placed on detailed technique of operation with illustrations. It fulfills the editor's hope to place in one volume the best representation of British surgery as it is practiced today.—S.R.F.

\* \* \*

*Textbook of Gynecology. Sixth Edition. By Arthur Hale Curtis and John William Huffman. Published by W. B. Saunders Company, Philadelphia. 799 pages, 466 illustrations including 37 in color. Price \$10.*

A revised and up-to-date edition of the Curtis Textbook of Gynecology with excellent discussion of the anatomy, physiology and pathology of the female genital tract and related disturbances of the urinary and gastro intestinal systems.—R.L.N.

\* \* \*

*Plastic and Reconstructive Surgery—A Manual of Management. By Ferris Smith. Published by W. B. Saunders Company, Philadelphia. 895 pages, 592 figures. Price \$15.*

In general, this new book on plastic surgery covers quite well this field of surgery which is not well or easily defined. Multiple illustrations, mostly photographs, show the "before and after" results nicely, but the techniques by which such results are accom-

plished are described in fine print not infrequently two pages away from the pictures, requiring some thumbing back and forth for understanding.

It is not the author's purpose to make easy reconstructive procedures to the casual operator, but to develop plans for management based upon well grounded principles. There is very little general discussion or historical development, references being listed in an appendix by topics, under a title, "Recommended Collateral Reading," which is not exhaustive, but adequate for background. This book, of course, will be of most interest to students of plastic surgery, but is complete enough to be useful to the general surgeon confronted with some unusual problems.—D.W.R.

\* \* \*

*A Manual of Cardiology. Second Edition. By Thomas J. Dry. Published by W. B. Saunders Company, Philadelphia. 333 pages, 95 illustrations. Price \$5.00.*

Dr. Dry has presented a clear and concise picture of the problems of cardiology in this manual. The chapters fall in logical order, beginning with an excellent discussion of the normal heart and fundamental considerations of heart disease and concluding with consideration of the treatment of congestive heart failure from various causes. Between these two chapters are 18 chapters devoted to the various types of heart disease and the problems of diagnosis and treatment of each. Each chapter gives a clear description of physical, electrocardiographic, and roentgenologic findings. These findings are well explained by numerous illustrations. I would consider this an excellent book for medical students and for any physician seeking a brief review of the field of cardiology.—J.L.S.

\* \* \*

*Psychiatric Sections in General Hospitals. By Paul Haun. Published by F. W. Dodge Corporation, New York. 80 pages, 14 plans. Price \$4.00.*

This concise, readable, clinically oriented and practical presentation of a rather technical subject should be read with interest and profit by anyone who is participating in the planning of a general hospital, especially by hospital board members and architects, and the physicians who are assisting, as consultants and technical advisors, in the planning.

The reasons for including a psychiatric section in a general hospital are presented: the obligation of the hospital to its community; the practical logic of giving early (and, in some cases, definite) treatment, without the stigma and the increased cost to the patient of treatment in a specialty hospital; the financial soundness, from the point of view of the hospital. The book's introduction, by Dr. Karl Menninger, makes the point that psychiatric facilities in





# Daricraft Babies

More and more  
doctors are prescribing  
Daricraft Homogenized  
Evaporated Milk  
for babies . . . and for  
convalescent diets

Always uniform in quality, safe, steri-  
lized, high in food value and minerals.  
Contains 400 U. S. P. units Vitamin D  
per pint of Daricraft. Easily digested.



FOR CONVENIENCE  
ECONOMY QUALITY

**Daricraft**  
HOMOGENIZED  
EVAPORATED  
MILK



PRODUCERS CREAMERY CO., SPRINGFIELD, MO.

# BIRTCHEr HYFRECArTOR

Used by  
More Than  
**70,000**  
DOCTORS

. . . for the removal of  
skin growths, tonsil  
tags, cysts, small tu-  
mors, superfluous hair,  
and for other technics  
by electrodesiccation,  
fulguration, bi-active  
coagulation.

Now, completely re-  
designed the new  
HYFRECArTOR  
provides more power  
and smoother control  
. . . affording better cos-  
metic results and great-  
er patient satisfaction.  
Doctors who have used  
this new unit say it pro-  
vides for numerous new  
technics and is easier,  
quicker to use.

**\$4950 COMPLETE**

Send for descriptive bro-  
chure, "Symposium on  
Electrodesiccation and Bi-  
Active Coagulation" which  
explains the HYFRECA-  
rTOR and how it works.

**THE BIRTCHEr CORPORATION**  
5087 Huntington Drive Los Angeles 32, Calif.

To: The BIRTCHEr Corp., Dept. KA  
5087 Huntington Dr., Los Angeles 32, Calif.

Please send me free booklet, "Symposium on  
Electrodesiccation and Bi-Active Coagulation."

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



a general hospital can be successfully employed even in small communities.

The author stresses the importance of functional planning, so that the structure will be adapted to the best modern psychiatric practice. Many important details, dependent on treatment and procedures peculiar to psychiatry, are discussed. Several plans are given, with comments on their good and bad points. Although the plans shown are for psychiatric units of 17 to 24 beds in general hospitals of 150 to 250 bed capacity, the general principles of planning and construction, based on functional considerations, may be applied in a psychiatric unit of a general hospital of any size.—*W.F.R., Jr.*

*Freud; Dictionary of Psychoanalysis. Edited by Nandor Fodor and Frank Gaynor. Published by the Philosophical Library, Inc., New York, New York. 208 pages. Price \$3.75.*

Sigmund Freud is probably the most widely misquoted and misunderstood medical writer. Many of Freud's contributions are now accepted as common knowledge, others have been rejected, and others are still the source of intense controversy. To attempt to find out what Freud's views were on a given topic by reading the work of others is to invite error. To search for such a topic in the 13 volumes of his own work is a tremendous task and is

further complicated by the fact that he was continually adding to his clinical data and revising his theoretical formulations.

This book provides an alphabetically arranged index of the major topics of Freud's work with direct quotation and reference to source. No interpretative notes or comments are added, and dates of the remarks, which would be useful in correlating them both with the development of Freud's own theories and the work of others, are not given.

The definitions in this glossary of Freudian terminology have been chosen with care by authors well qualified to assemble this material.

This will be a reference book of lasting value to the advanced student of psychiatric history and psychoanalytic theory. It will be of interest to a great number of others. It is of no direct clinical usefulness and is recommended only to those who have a general reading knowledge of the field.—*M.T.E.*

Approximately five to seven of every 100 children who returned to school this fall will have a physical limitation, according to Dr. Alfred R. Shands, Jr., medical director of the Alfred I. duPont Institute of the Nemours Foundation. Dr. Shands recommends education of teachers in the proper approach to such children, stressing friendliness, warmth, interest, patience, and kindness.

## ANNOUNCING THE TWENTIETH ANNUAL CONFERENCE OF THE OKLAHOMA CITY CLINICAL SOCIETY

October 30, 31 and November 1, 2, 1950

### DISTINGUISHED GUEST LECTURERS

WILLIAM A. ALBRECHT, Ph.D., *Nutrition*, Chairman, Department of Soils, University of Missouri, Columbia, Missouri

LOUIS H. CLERF, M.D., *Otolaryngology*, Professor of Broncho-Esophagology and Laryngology, Jefferson Medical College, Philadelphia, Pennsylvania.

CLAUDE F. DIXON, M.D., *Surgery*, Professor of Surgery, University of Minnesota Postgraduate School, The Mayo Foundation, Rochester, Minnesota.

NICHOLSON J. EASTMAN, M.D., *Obstetrics*, Professor of Obstetrics, Johns Hopkins University School of Medicine, Baltimore, Maryland.

JOHN B. GROW, M.D., *Surgery*, Assistant Professor of Surgery, University of Colorado School of Medicine, Denver, Colorado.

E. C. HAMBLIN, M.D., *Medicine*, Professor of Endocrinology, Duke University School of Medicine, Durham, North Carolina.

HENRY N. HARKINS, M.D., *Surgery*, Professor of Surgery, University of Washington School of Medicine, Seattle, Washington.

EDWARD H. HASHINGER, M.D., *Medicine*, Clinical Professor of Medicine and Head of Department of Postgraduate Medical Education, University of Kansas School of Medicine, Kansas City, Kansas.

ELMER L. HENDERSON, M.D., *President*, AMERICAN MEDICAL ASSOCIATION, Louisville, Kentucky

ELMER HESS, M.D., *Urology*, Chief, Urological Clinic, St. Vincent's Hospital, Erie, Pennsylvania.

RULON W. RAWSON, M.D., *Medicine*, Director, Sloan Kettering Institute, Memorial Hospital, New York City.

RALPH A. REIS, M.D., *Gynecology*, Professor of Obstetrics and Gynecology, Northwestern University School of Medicine, Chicago, Illinois.

ERNEST SACHS, M.D., *Neuro-Surgery*, Research Associate Professor in Neurophysiology, Yale Medical School, New Haven, Connecticut.

RICHARD G. SCOBEE, M.D., *Ophthalmology*, Assistant Professor of Ophthalmology, Washington University School of Medicine, St. Louis, Missouri.

PAUL C. WILLIAMS, M.D., *Orthopedic Surgery*, Associate Professor of Orthopedic Surgery, Southwestern Medical College of the University of Texas, Dallas, Texas.

JAMES L. WILSON, M.D., *Pediatrics*, Professor of Pediatrics, University of Michigan School of Medicine; Chairman of Department of Pediatrics and Communicable Diseases, University Hospital, Ann Arbor, Michigan.

CARROLL S. WRIGHT, M.D., *Dermatology*, Professor of Dermatology and Syphilology, Temple University School of Medicine, Philadelphia, Pennsylvania.

CLINICAL PATHOLOGICAL CONFERENCES  
GENERAL ASSEMBLIES

ROUND TABLE LUNCHEONS  
SMOKER

POSTGRADUATE COURSES

DINNER MEETINGS  
COMMERCIAL EXHIBITS

Registration fee of \$15.00 includes all the above features

For further information, address Executive Secretary, 512 Medical Arts Building, Oklahoma City

# KANOX THERAPEUTIC OXYGEN



Oxygen Therapy Regulators  
and Equipment

Anesthetic and Resuscitating  
Gases

## KANSAS OXYGEN

Phone 6392

HUTCHINSON, KANSAS

Box 551



## *Woodcroft Hospital—Pueblo, Colorado*

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



### Fellowship Program in Industrial Medicine

A fellowship program for training a limited number of industrial physicians will be started by the Atomic Energy Commission this fall if qualified candidates can be obtained. The stipend for fellows will be \$3,600 during the first year, with study at either the School of Medicine of the University of Rochester, New York, or the Department of Occupational Medicine, School of Public Health at the University of Pittsburgh. An additional year of on-the-job training may be offered later at AEC installations with a salary of \$5,000.

Application forms may be secured from the AEC Industrial Medicine Fellowship Committee, Division of Biology and Medicine, Atomic Energy Commission, Washington 25, D. C.

### Price of Cortisone Reduced

Merck and Company, Inc., manufacturing chemists, recently announced a reduction from \$95 to \$50 per gram in the price of Cortone, Merck brand of cortisone. Increased factory production makes the reduction possible, and permits purchase of the product at one-quarter the figure charged when it was first offered for investigational use in August, 1949.

### Sectional Meeting of A.C.S.

A sectional meeting of the American College of Surgeons will be held at the Hotel Statler, St. Louis, January 22 and 23, 1951, for physicians in Missouri, South Dakota, North Dakota, Minnesota, Wisconsin, Iowa, Kansas, Louisiana, Arkansas, Mississippi, Illinois and Indiana. There will be an additional day of operative clinics. Physicians who are not fellows of the College may attend by paying a small registration fee.

### Illustrators' Directory Available

The directory issue of Graphics, the official publication of the Association of Medical Illustrators, is available without charge to those requiring medical illustration service. It contains the name, address, training, professional experience and reference to major published work of each member. Copies may be requested from Miss Helen Lorraine, Editor, 5212 Sylvan Road, Richmond 25, Virginia.

### Research Fellowship in Endocrinology

A research fellowship in endocrinology was established recently at Rutgers University by Schering Corporation, pharmaceutical manufacturers. The grant, valued at \$2,300, is intended for the support of fundamental research by graduate students in the field of steroid hormones, including the relationship between normal steroid hormone functions and the protein metabolism of the body.

## ANNOUNCEMENTS

- October 12-14—Course in Postgraduate Gastroenterology, National Gastroenterological Association, Hotel Statler, New York City. Full information from Association, Dept. GSJ, 1819 Broadway, New York 23, New York.
- October 23-27—36th Clinical Congress, American College of Surgeons, Boston, Massachusetts. Headquarters at Statler and Copley Plaza. Full information from A.C.S., 40 East Erie Street, Chicago 11, Illinois.
- October 30-November 1—Postgraduate Course in Psychosomatic Medicine, changed from University of Kansas Medical Center to Winter VA Hospital, Topeka.
- October 31-November 3—Annual Assembly, International College of Surgeons, Cleveland, Ohio. Write International College of Surgeons, U. S. Chapter, 511 Terminal Building, Cleveland 13, Ohio.
- November 3-18—Postgraduate Course in Diseases of the Chest, American College of Chest Physicians, Hotel New Yorker, New York, New York.
- November 6-10—Postgraduate Course in Obstetrics, Gynecology and Pediatrics, University of Kansas Medical Center.
- November 12-13—Seventh Annual Meeting, Southern Chapter, American College of Chest Physicians, Statler Hotel, St. Louis, Missouri.
- December 5-8—American Medical Association Clinical Session, Statler Hotel, Cleveland, Ohio.
- December 10-15—36th Annual Meeting, Radiological Society of North America, Palmer House, Chicago, Illinois.
- December 11-13—Postgraduate Course in Therapeutics, University of Kansas Medical Center.
- January 8-10—Postgraduate Course in Radiology, University of Kansas Medical Center.
- January 22-23—Sectional Meeting, American College of Surgeons, Statler Hotel, St. Louis, Missouri.
- January 29-February 2—Postgraduate Course in Surgery, including Urology, Orthopedics and Industrial Surgery, University of Kansas Medical Center.
- February 12-14—Postgraduate Course in Public Health and Preventive Medicine, University of Kansas Medical Center.
- February 19-21—Postgraduate Course in Physical Medicine and Rehabilitation, University of Kansas Medical Center.
- March 19-22—Postgraduate Course in Internal Medicine, including Psychiatry and Dermatology, University of Kansas Medical Center.
- April 9-13—32nd Annual Session, American College of Physicians, St. Louis, Missouri. Full information from A.C.P., 4200 Pine Street, Philadelphia 4, Pennsylvania.
- April 16-20—Postgraduate Course in Ophthalmology and Otolaryngology, University of Kansas Medical Center.
- April 30-May 3—Postgraduate Course in Applied Neurology, University of Kansas Medical Center.
- May 14-17—92nd ANNUAL SESSION, KANSAS MEDICAL SOCIETY, TOPEKA, KANSAS.

### CLASSIFIED ADVERTISEMENTS

**FOR SALE**—G. E. Victor x-ray with developing tank and filing cabinet, excellent condition, \$500; Hamilton examining table with matching instrument cabinet, treatment table and sterilizer table, seven chrome chairs with matching table, new microscope, five-ton capacity York air conditioner and many other articles of office equipment. Write the Journal 33-50.

*The Neurological Hospital, 2625 West Paseo, Kansas City, Missouri, a voluntary hospital providing the care and treatment of nervous and mental patients, and associate conditions.*

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

Owned and Published by The Kansas Medical Society

Volume LI

NOVEMBER, 1950

No. 11

## Lupus Erythematosus\*

Arthur R. Woodburne, M.D., and Osgoode S. Philpott, M.D.

Denver, Colorado

For many years lupus erythematosus has been of almost exclusive interest to dermatologists. During the past 25 years since the work of Libman-Sacks<sup>1</sup> and others a great general interest has been shown by internists and general practitioners in this group of diseases. Dermatologists, because of their longer interest in these patients, have learned much about this disease. There are many pitfalls into which the unwary practitioner may fall in handling these patients.

The diagnosis is complicated by many difficulties in both chronic and acute forms, and treatment is equally hazardous since injudicious use of the gold salts or any of the other standard methods such as removal of foci of infection may be attended by serious and in many instances fatal complications. It is the purpose of this paper to discuss this disease in an effort to outline proper methods of investigation and treatment so that these many untoward complications may be best avoided.

Lupus erythematosus is a systemic disease, by many<sup>2</sup> considered to be a manifestation of a profound general collagen disturbance of the body. The association of the word "lupus" leads to a confusion with tuberculosis with which lupus erythematosus has only a questionable and not clearly defined relationship.

Clinically the disease is recognized in several different forms: the chronic type, the subacute type and the acute disseminated variety.

### Chronic Discoid Lupus Erythematosus

The chronic form of this disease is characterized by 0.5 to one cm. and often larger plaques, usually over the nose and cheeks, more rarely on the back of the hands, but practically always on exposed surfaces. These plaques are usually first edematous papules which enlarge, become dry and are covered

by a dry, horny scale. The lesions increase in size by peripheral extension and the center becomes dry and scaly, later showing atrophy and in some areas definite atrophic scars. As the inflammation subsides the dry scale is characterized by horny plugs extending into the follicular orifices. After months, or years, the center of the lesions become atrophic and the plaques may show all the features of lupus erythematosus—erythema, scaling and atrophy. These areas commonly go on to healing with or without treatment after a great variation in time, and when healed show a noncontractile scar. Some areas of these scars show telangiectases and a surface stippled appearance with prominent dilated follicles. Rarely areas heal with almost imperceptible atrophy. Patches are seen in the scalp and are seen here as scarred areas of alopecia with relatively little inflammatory reaction. Dry, silvery, scaled areas of the lips are not uncommon and more rarely roughened erythematous patches may be seen on the buccal and lingual mucous membrane.

Chronic discoid lupus erythematosus is usually characterized by soft, enlarged and nontender regional lymph nodes, but by no other evidence of systemic disease. The blood count, urinalysis and sedimentation rate are not altered.

### Subacute Lupus Erythematosus

This form usually is seen as edematous, erythematous patches of the cheeks, face, dorsa of the hands, arms, upper chest and neck. The plaques do not show the typical scale with carpet tack plugs and rarely any atrophic changes. The onset of these lesions is usually much more explosive than the chronic form, and rapid spread is usual. Symmetrical arrangement of the eruption is usual. The course of this form of the disease is varied, in most the eruption fades and a few of the patches will assume the form of the chronic discoid variety showing erythema, scale and atrophy while most will disappear leaving no trace on the skin. The importance of this form of the disease is that it may rapidly

\*From the Department of Dermatology, Medical School, University of Colorado. O. S. Philpott, professor, and the private practice of Dr. O. S. Philpott and Dr. A. R. Woodburne, Denver, Colorado. Presented at the 91st annual session, Kansas Medical Society, Wichita, Kansas, May 15-18, 1950.



progress to the usually fatal acute form or involute showing the characteristic picture of the chronic discoid form.

Evidence of systemic disturbance usually is slight. There may be a slight leukopenia and an elevation of the sedimentation rate to 20 mm. per hour but rarely higher.

#### Acute Disseminate Lupus Erythematosus

The acute form of this disease, fortunately rare, is a grave systemic disorder accompanied by serious constitutional symptoms and characterized by many and varied signs. The skin lesions may be seen early, late or not at all. Onset with arthralgia or hydrops of larger joints is a common form, others show polyserositis with pleuritic, pericardial or peritoneal effusion; enlarged tender spleen and liver are not uncommon early signs of the disease. A persistent septic temperature is almost a constant finding with this form, albuminuria is usual, leukopenia and a greatly elevated sedimentation rate are regularly seen. Loss of appetite, nausea, vomiting or diarrhea are not uncommon symptoms.

A vegetative endocarditis with embolic phenomena and sterile blood culture is not uncommon, and most observers are of the opinion at present that the Libman-Sachs<sup>1</sup> syndrome is one manifestation of this disease. The above systemic manifestations progress with increasing intensity, wasting, elevation of temperature and leukopenia with a usually fatal termination in a period of several months.

The skin manifestations are varied but are in general characterized by erythema and edema with little scaling and very rarely any typical carpet tack plugging.

The areas of predilection are in general the exposed surfaces; however, general macular and plaque-like lesions are sometimes seen.

A skin manifestation of grave prognostic import is the erythematous linear and edematous patches on the terminal pads of fingers and toes. These become dry and occasionally gangrenous, healing at times with linear scarring of finger and toe tips.

#### Etiology

Lupus erythematosus is much more common in women than in men and usually manifests itself in the 20-30 decade. Rarer cases are seen in young children and occasionally in people 60-70 years of age.

Foci of infection are felt to be definite contributory factors and all possible sources should be investigated, especially teeth, tonsils, gall bladder, prostate and the pelvic organs in women. The time to remove evident foci, however, should be care-

fully chosen since any shocking procedure in the subacute or acute varieties may rapidly lead to complete dissemination and a rapid fatal outcome. Most American observers now feel that, while the disease was originally associated with tuberculosis, that tuberculosis in our cases is seen only as a sensitizing focus in a few cases and has no specific factor in the disease.

Sunlight and various sources of actinic radiation serve as a trigger which sets off the explosion in many cases, and we have seen many cases in which the onset of a chronic disease or acute dissemination immediately followed acute sunburn. Klemperer<sup>2</sup> and his associates have studied at post-mortem many cases of this disease, and their opinion is that lupus erythematosus is a disease manifest primarily in the collagen tissues of the body, especially of the smaller vessels causing a profound change in the physiochemical structure of the fibers and ground substance. As to just why and how these changes have been produced the theories are legion. The general view, however, is that these changes have been produced by chronic infection sensitizing the organism so that sunlight, actinic rays and other shocks may precipitate this physio-chemical change in fibers and ground substance of the collagen tissue.

The clinical course depends on the degree of sensitivity of the individual; in some the chronic comparatively benign form of the disease will develop, in others the rapidly fatal acute disseminate variety will supervene.

A nonspecific positive serologic test for syphilis is a common finding in lupus erythematosus. In some series this finding has run as high as 40 per cent of the cases.<sup>3</sup>

The "Hargraves"<sup>4</sup> or "L. E." cell is a blood cell found by staining bone marrow smears which has been found only in cases of lupus erythematosus and in general only in the acute form of the disease. This cell has proved to be a big help in establishing the diagnosis of lupus erythematosus in those acute cases in which no characteristic skin findings are found. The "L. E." cell is a polymorphonuclear neutrophile which has phagocytized chromatin from degenerating blood cells. Large vacuoles are seen in the cytoplasm of these polymorphonuclear leucocytes in which chromatin material is easily demonstrated on staining of bone marrow smears. It is thought that these cells are a manifestation of circulating toxins since the addition of blood serum from a patient with acute disseminate lupus erythematosus incubated with normal heparinized bone marrow will result in the formation of these "Hargraves" cells in the normal bone marrow. These cells have not been demonstrated in any other morbid condition.

### Treatment

In chronic discoid lupus erythematosus physical and laboratory findings are normal. The skin lesions are the only diagnostic finding. In these cases vigorous treatment is possible without danger. The use of gold salts has given the most generally satisfactory results. Gold sodium thiosulphate intravenously or the colloidal gold salts intramuscularly are usually used. The dose should be started at 10 milligrams and increased 10 milligrams per dose, one injection per week until a 50 milligram dose is reached. The treatment is then continued with weekly injections of 50 milligrams each. This may have to be continued for three months. If the lesions are not largely well at the end of this time, it is wise to give a rest period of two or three months, and then resume treatment.

Before active treatment is instituted a search for foci of infection should be completed and any definite foci should be removed.

Patients should be warned of the harmful effect of actinic rays and should be protected at all times from their harmful effect. A broad brimmed hat should be worn when outdoors and protective pastes or creams should be used on exposed skin areas. Ultraviolet light and x-ray are definitely contraindicated in the treatment of any form of this disease.

Quinine by mouth is an old standard treatment in this disease but is usually not nearly as effective as the gold salts. However, in cases showing any constitutional reaction it is wise to start treatment with it in doses of 10 grains three times a day.

Bismuth subsalicylate in doses of one or two cc. intramuscularly once a week is very effective in some cases. We have found bismuth particularly effective in this disease in the Negro and other dark skinned races.

All these methods of treatment should be checked periodically by urinalysis and blood count. Any evidence of albumen, leukopenia or elevation of the sedimentation rate should call for further study of the patient and extreme caution in continuation of the above procedures.

In chronic cases showing old inactive areas the intradermal injection of gold sodium thiosulphate under the lesions is somewhat effective. We have also had some help by freezing these areas with solid carbon dioxide.

In the subacute case the early treatment should be limited to the cautious elimination of infection, building up of the general health by the use of intramuscular crude liver extract, a high vitamin and high protein diet and a good rest regime and protection from actinic rays. After a few weeks of observation the cautious use of quinine by mouth or bismuth may be tried. If there is no unfavorable

reaction gold may then be tried, beginning with five milligrams and increasing the dose by five milligrams each week. I cannot stress too definitely the danger of any shock therapy in subacute lupus erythematosus. On several occasions we have seen the too energetic treatment of these patients precipitate an acute and fatal dissemination.

In acute disseminate lupus erythematosus we must first rely in therapy on complete bed rest, tonic medication such as intramuscular injections of crude liver extracts, transfusion, high protein diet and general vitamin supplement. The antibiotics should be used if any infection is present; however, the sulfonamides are contraindicated because of their photosensitizing action. None of these agents has shown any specific action in the disease and one is used only to control intercurrent infection. Intravenous glucose is sometimes helpful, and quinine to tolerance has proved helpful in some. In case remission ensues and the patient is fever free a course of bismuth may be tried very cautiously.

Salicylates in very large doses have been effective in some cases. Here the dose must be pushed to 100 to 150 grains per day. Curtis and his associates have reported good results with the use of para-amino benzoic acid in large doses by mouth.<sup>5</sup> After prolonged remission minute doses of one of the gold salts may be tried. This is a dangerous procedure and must be undertaken with great care.

Local treatment in the acute cases must be limited to very simple and nonirritating procedures. Cool, wet dressings and simple emollients and protective preparations only should be used.

### Prognosis

The unpredictable nature of this disease, with its tendency to recurrence, is such that we know little of the ultimate outcome in any large series of cases. Most of the chronic cases involute with residual scarring and defects of the skin of the face. Scars of lupus erythematosus have a marked tendency to the development of squamous cell carcinoma in later years and this must be watched for and treated carefully. However, some cases when they recur assume a more acute form, and, if extreme care is not used in their management, may develop the acute disseminate form of the disease. Extreme care must always be exercised in the care of the subacute group to prevent dissemination. Acute disseminate lupus erythematosus has a decidedly unfavorable prognosis and a fatal termination ensues in a great majority of the cases.

### Conclusions

A general survey of lupus erythematosus has been briefly given in an effort to point out proper methods of care in the various forms of the disease.

We have tried to particularly stress pitfalls in the



handling of these cases which may lead to dangerous and even fatal mistakes in therapy and have particularly cautioned against any shocking therapy in those cases showing any systemic reaction.

#### References

1. Libman, E., and Sacks, B.: A Hitherto Undescribed Form of Valvular and Mural Endocarditis, *Arch. Int. Med.* 1924 xxxiii 70-737.

2. Klemperer, P.: Pollack, A. D., and Baehr, G.: Pathology of Disseminate Lupus Erythematosus, *Arch. Path.* 32:569, 1941.

3. Montgomery, H., and McCreight, W. G.: Disseminate Lupus Erythematosus, *Arch. Dermt. and Syph.*, 60, 3 p. 355-372 (Se.,t.) 1949.

4. Hargreaves, M. M., Richmond, L., and Morton, Robert: Presentation of Two Bone Marrow Elements: The "Tart" Cell and the "L. E." Cell, *Proc. of the Staff Meeting of the Mayo Clinic*, 23:25-28, (Jan. 21) 1948.

5. Zarafonitis, C. J. D., Curtis, A. C., and Brekin, R. H.: Further Studies in Treatment of Lupus Erythematosus With Sodium Para-Aminobenzoate, *J. Invest. Dermat.*, 11:355, 1948.

## The Indeterminate Chest Lesion

John G. Shellito, M.D.\*

Wichita, Kansas

### Introduction

Interest in thoracic disease has increased rapidly during the past 10 years. The surgeon has found the thorax accessible, and the internist, bronchoscopist, radiologist, bacteriologist, and pathologist have all rendered great assistance in overcoming our inability to diagnose an unknown chest lesion. Most of the efforts have been directed against carcinoma of the lung which now appears, according to Ochsner and DeBakey,<sup>1</sup> as a more common malignant lesion than cancer of the stomach.

All patients suspected of a chest lesion should have the benefit of a good history and physical examination. However, many lesions in the thorax are discovered in a chest x-ray by a mobile x-ray unit or by the examining physician in a routine chest film. Often these patients complain of nothing at all.

Given a lesion discovered by x-ray or any other method, there are many procedures available to aid us in the diagnosis. The first of these is the roentgenogram. A lateral film is always required to localize the lesion in the antero-posterior plane. Sputum may be collected and studied for fungi and other pathogenic organisms. The sputum may also render much information in the hands of a good pathologist. Woolner and McDonald<sup>2</sup> have been able to confirm the diagnosis of carcinoma of the lung in 95 per cent of cases with an incidence of two per cent false positives. Bronchoscopy may visualize the lesion, and in such instances it is often possible to obtain a biopsy. The bronchoscopist may also collect secretions and irrigations from the suspected area of the lung, and send the material to the pathologist for cell study. If pleural effusion is present, this fluid may make the diagnosis in the hands of the pathologist or bacteriologist.

In spite of the above methods of study, a lesion of the lung may resist all efforts of diagnosis. In approximately 25 per cent of cases, this will be true. If the classic signs of inoperability are not present,

such as bloody pleural fluid, fixed vocal cord, paralysis of the diaphragm, or distant metastases, it is far better to give the patient the benefit of exploratory thoracotomy than to "watch the lesion."

### Benign Lung Lesions

In considering the benign lung lesions, the hamartoma is one of the most interesting lesions we know. This tumor of the lung contains tissue normally found in that organ, but which has undergone an abnormal growth. These tumors are hard, grow from many centers, and feel almost cartilaginous or "fibroid" like. They are benign, easily shelled out, and do not recur. They are often mistaken for cancer.

The remainder of the benign lesions of the lungs consist mainly of cysts. The first of these is the enteric cyst, also called a bronchogenic cyst. This lesion is thought to be due to an error in development and considered by some pathologists to be a lung bud or lobe bud that has failed to develop. A celomic cyst is due to defect in diaphragmatic development in the embryo and is often found at the junction of the pleura and the pericardium in the lower part of the thorax. This cyst is also called the pleural pericardial cyst or the spring-water cyst. Empyema, which is now on the decline in this country due to the effects of our antibiotic agents, needs no further discussion. Dermoids and teratomas are the defects in development so common in all of our experience. These are found in the mediastinum more often than in the peripheral lung field.

### Infections and Granulomas

Tuberculosis is still the most common infection of the lung known today. The difficulty is not in making the diagnosis, but in being sure that a questionable lesion is not something else, such as a granuloma. Tuberculosis will mimic almost any known disease of the lung including carcinomas. The most difficult differentiation is its separation from the other granulomatous lesions of the lung

\*From the Department of Surgery, The Wichita Clinic, Wichita, Kansas.

which have come into prominence during the last five years.

**ASPERGILLOSIS:** The first case of acute fulminating Aspergillosis was reported by Delikat and Dyke<sup>3</sup> in England in 1945. The patient was thought to have had an obscure type of pneumonia. The disease, as such, is relatively rare in this country.

**BLASTOMYCOSIS:** Blastomycosis, as found on the North American continent, has long been associated with patients from farm areas and slums of large cities. The infection is usually primary in the skin where it may remain localized for months or years. The systemic invasion of the host is often via the lungs, the first sign being that of a common upper respiratory infection. As the disease becomes more fulminant, dyspnea, cough, bloody sputum, weight loss and fever become evident. The physical signs are those of pneumonia, lung abscess, or advanced pulmonary tuberculosis. This disease may simulate lymphoblastoma by enlargement of the hilar and mediastinal lymph nodes. The roentgenogram may appear to be miliary tuberculosis. A discrete, round, solitary lesion of the lung is rare. In some patients the cough, bloody sputum, and chest pain due to pleural involvement, will suggest a neoplastic process.

The organism may be isolated from the sputum or from the lesions in the skin.

The association of cystic bone lesions with the pulmonic manifestations of this disease is common.

**COCCIDIOMYCOSIS:** Coccidiomycosis was first described in the United States by Rixford<sup>4</sup> in 1894. It is an epidemic disease caused by the *Coccidioides immitis* with a well known endemic focus in the San Joaquin Valley of California. One attack of the disease is thought to confer immunity. During the past war, the disease was well studied among the members of the armed forces. It has since become apparent that the disease is prevalent in places other than California.

The initial acute stage of the disease is "flu-like," and carries a minimal mortality rate. Good<sup>5</sup> has divided the disease into acute, persistent, and disseminated forms. Coccidiomycosis not only mimics tuberculosis and acute pneumonic lesions in the earlier stages, but will look like lymphoma, metastatic and primary malignant lesions as well. It is felt that the coccidioid granuloma of the lungs is found in the disseminated phase of the disease. According to Sweigert and Turner,<sup>6</sup> cavitation of the lungs occurs in 7.8 per cent of the patients. Hilar adenopathy is usually marked.

**HISTOPLASMOSIS:** Histoplasmosis is a rare affection of the lung, the proof of which lies in the isolation of the round, globular, encapsulated, yeast form from the sputum or from the resected

specimen. The disease suspect may include any of the granulomas, tuberculosis, or a common pneumonia.

**MONILIASIS:** Monilia is a common inhabitant of the mouth and nasopharynx and is usually a secondary invader of almost all of the lung infections. This organism is a yeast and frequently is found as an invader in pulmonary suppurative disease.

**TORULA:** Torula is often called *Torula histolytica* or *Debarmyomyces neoformans*. The organism is a spore former and the usual pathology is a meningoencephalitis in children; however, it can infect the lungs, and there are a few cases reported in this country. The diagnosis is usually made by the isolation of the rounded yellow bodies in the cerebrospinal fluid.

**ACTINOMYCOSIS:** Actinomycosis bovis is the familiar ray fungus. This organism has an exceptionally poor regard for fascial planes and is prone to develop sinus tracts. Sulfur granules are not necessarily found in the presence of an infection due to actinomycosis.

Cope<sup>7</sup> in his review of 1,330 patients found the thorax involved in only 15 per cent.

Actinomycosis is also a common inhabitant of the mouth, being normally found in the tonsillar crypts and in carious teeth. Kay<sup>8</sup> feels that involvement of the lungs is usually secondary to inhalation from the primary focus, the mouth.

The disease is characterized by a low-grade infection with exacerbations and remissions. The radiologic picture, according to Peterson,<sup>9</sup> may simulate any non-inflammatory process in the lungs, in addition to lymphoblastoma, primary and metastatic carcinoma.

Thoracic surgery upon the patient afflicted with actinomycosis is often complicated by empyema and sinus tract formation. The results of lobectomy are much better if the involved portion of the lung is extirpated before the development of a sinus tract. It is obvious that if such is accomplished and no sinus tract or empyema develops, the hospital stay will be much, much shorter.

**CARCINOMA:** It is in the field of carcinoma that the impetus for early diagnosis is the most necessary. Malignancy of the lung has become as common a killer as carcinoma of the stomach. According to Evarts Graham,<sup>10</sup> it is primarily a disease of males with a ratio of 6:1. Bronchogenic carcinoma usually arises in a major bronchus. The most common symptom is cough and the second most common is hemoptysis. If the patient is so unfortunate as to have a carcinoma arising in a somewhat peripherally placed bronchus, these two cardinal signs may not be observed. Weight loss is usually a feature. Pain is a late symptom and when coupled with



hoarseness due to involvement of the recurrent laryngeal nerve, is usually indicative of inoperability. However, some of these cases have been salvaged in late years, and this is not always an absolute indication of inoperability.

We have as our aids in diagnosis the x-ray, the bronchoscope, and the examination of sputum and bronchial washings. By all the methods available to us, only 75 per cent of patients will come to surgery with a presumptive diagnosis, the remainder must be operated upon with only a suspect or indeterminate diagnosis. Graham<sup>10</sup> feels that only 25 per cent of the cancers of the lung will be resectable. An additional 32 per cent preoperatively will be considered explorable, and the remaining 43 per cent will be inoperable when first seen. The mortality rate is now five to six per cent. The five-year survival rate of those operated upon is now thought by Graham to be 28 per cent. The resectability rate is approximately the same as cancer of the stomach.

In a review of 100 patients operated upon as indeterminate lung lesions, Clagett<sup>11</sup> discovered that 65 per cent of the unknown lesions were found to be cancer.

### Conclusion

When presented with a lesion of the lung, we must use every means at our command to try to arrive at a diagnosis. Failing in this, we must explore the patient as an indeterminate lesion.

The risk of exploratory chest surgery is now less than six per cent. Certainly the patient deserves an exploration to determine the nature of the lesion, rather than to be subjected to care in a sanatorium, or to be watched until the lesion is inoperable.

### Bibliography

1. Ochsner, A., and DeBakey, M.: *Surgery*, Vol. 8:992, 1940.
2. Woolner, L. B., and McDonald, J. R.: *Carcinoma Cells in Sputum and Bronchial Secretions*, *Surg. Gynec. & Obstet.*, Vol. 88:273-290, March, 1949.
3. Delikat, E., and Dyke, S. C.: *Acute Pulmonary Mycosis*, *Lancet* 2:370-371, Sept. 22, 1945.
4. Rixford: Quoted by Siewert, C. F., Turner, J. W., and Gillespie, J. B.: *Clinical and Roentgenologic Aspects of Coccidiomycosis*, *Am. J. Med. Sc.*, 212:652-673, Dec., 1946.
5. Good, C. A.: *Roentgenologic Manifestations of Coccidiomycosis*, *Proc. Staff Meet. Mayo Clinic*, 22:341-345, 20 Aug., 1947.
6. Siewert, C. F., Turner, J. W., and Gillespie, J. B.: *Am. J. Med. Sc.* 212:652-673, Dec., 1946.
7. Cope, Z., *Actinomycosis*, Oxford University Press, London, pp. 75, 1938.
8. Kay, E. B.: *Bronchopulmonary Actinomycosis*, *Ann. Int. Med.*, 26:581-593, April, 1947.
9. Peterson, V. L.: *Fungus Diseases of the Chest*, *Radiology*, Vol. 43:14-20, July, 1944.
10. Graham, E.: *Bronchogenic Carcinoma*, *Surg. Gynec. & Obstet.*, Vol. 88:129-131, January, 1949.
11. Clagett, O. T.: *Personal Communication*.

## THIRD ANNUAL MID-WEST CANCER CONFERENCE

January 18, 19 and 20, 1951

Broadview Hotel

Wichita, Kansas

# Fibrosarcoma

Robert Wright, M.D.\*

Kansas City, Kansas

Fibrosarcoma is a term which is sometimes used to connote a neoplastic condition of fibroblastic elements. Considerable confusion exists in certain instances of sarcoma of soft tissues as to origin and terminology. For example, such terms as neurofibrosarcoma, neurogenic sarcoma and neurogenous sarcoma are frequently used by various authors to designate similar, or identical, tumors. This variation in terminology does nothing to aid in the diagnosis of these tumors, but merely adds to the confusion surrounding their etiology.

This confusion has been very ably elucidated by Stout<sup>1</sup> in a recent article. According to Stout, the fibrosarcomatous cell is usually a spindle shaped cell containing clear cytoplasm and a conformed nucleus. The cell itself has many processes which are thick and thin, which are called, respectively, collagen and reticulin fibers. The reticulin fibers interlace and intertwine the cell body. The cells and fibers are arranged in interlaced bands, which may be so related as to produce long, sweeping curves of an obtuse character.

On the other hand, they may interdigitate and the curves be more acute which would, on cross section, give an entirely different picture than that seen in the former relationship. These tumors show a rather wide variation in rate of growth and invasiveness. They may run an abated course for years to terminally show an accelerated rate of growth. At times this change is associated with some injury, such as inadequate surgery, actual trauma, x-ray, etc. Stout cites 36 cases arising in scar tissue and four cases occurring in previously irradiated tissue. These tumors spread by the following methods in order of frequency: direct invasion, hematogenous and lymphatics, the latter being rare.

Biopsy is of help but the tumor is not always homogeneous and the section may not represent the entire tumor. Some parts of this tumor may be well differentiated and others highly anaplastic. Diagnosis should be based on the areas of greatest anaplasia.

Treatment of choice is extensive excision, both deep and wide. Frequently these tumors are insufficiently excised. One centimeter does not equal infinity. Records show that 60 per cent of these tumors recur and usually they become more undifferentiated with each recurrence. If nerves, vessels, etc., are involved, they should be excised. Amputation is indicated if the lesion involves a vessel of

an extremity whose continuity is essential. Radical amputation is indicated if the lesion occurs high on the extremity. During the past two years we have had the opportunity to see five cases of fibrosarcoma at St. Margaret's Hospital.

Case 1. M. H., a 63-year-old white female, was admitted in June, 1947, complaining of a growth on the left temporal region which was ulcerated in character and measured 13 by 15 by 1½ cms. Her history was as follows:

1. In 1932, a sebaceous cyst was excised from this region.

2. In 1936, the cyst had recurred and was treated with radiation therapy.

3. In 1939, it recurred and was excised again.

4. In 1943, it was excised and diagnosed as a benign fibroma.

5. In 1945, it was again present and excised.

6. In 1946, the lesion recurred and she received massive doses of x-ray therapy. Shortly thereafter the lesion ulcerated and began to grow rapidly, attaining its present size. The lesion was excised with a one-centimeter margin down to the temporalis muscle. Seventeen days later the defect was covered with a split thickness skin graft. The patient was discharged 12 days postoperatively with general condition satisfactory.

7. In 1948, the patient was readmitted with recurrence along the edge of the operative scar. This was excised and the patient dismissed.

8. In June, 1948, she developed another recurrence at the site of the previous excision. This measured three by four by 1½ cms. This lesion was excised and the patient discharged.

9. She was last seen in October, 1949, at which time she was readmitted with recurrence in the line of the previous excision. This was excised and the patient discharged with "general condition satisfactory." Microscopic examination of all the material removed revealed it to be a fibrosarcoma.

Case 2. C. J., a 47-year-old colored female, was admitted in July, 1948, complaining of a tumor on the right shoulder which she first noted in 1945. It was painless and grew slowly until one year prior to admission, then began to grow rapidly and became quite painful. The lesion was approximately six cm. in diameter, soft, fluctuant, not attached to underlying structures or skin. It was excised with a preoperative diagnosis of lipoma. Microscopically it was demonstrated to be a well differentiated fibrosarcoma. Eighteen days later a wide excision was

\*Resident in Surgery, St. Margaret's Hospital, Kansas City, Kansas (Boylan Fellowship).



done, including part of the trapezius muscle with overlying fascia. Microscopically the excised muscle was invaded with tumor cells.

Case 3. F. O., a 22-year-old white female, was admitted in July, 1948, complaining of pain, numbness, tingling of the right arm and a tumor in the right axilla. Her history revealed that she first noted the tumor in 1938. A biopsy was done in 1939, and a diagnosis of fibroma was made. From 1939 to 1943, the lesion grew to be eight by four cm. in size. It was excised at that time. However, it was noted that the medial trunk of the brachial plexus was involved. Microscopically it was a fibrosarcoma.

In March, 1949, the patient was readmitted with a tumor on the right shoulder which measured three by two by 1½ cms. It was excised and microscopically was shown to be a cystic myoblastoma.

The patient's next admission was in November, 1947, following reappearance of a tumor in her right axilla. She stated that four months prior to admission she developed pain along the inner surface of the right arm and the right side of the neck. One month before admission she noticed the tumor in her right axilla. Physical examination revealed the tumor to be 3½ cms. in diameter, firm, tender and fixed. It was excised along with 10 cms. of the involved antibrachial cutaneous nerve.

The patient was readmitted in July, 1948, complaining of pain in the right elbow and of a tumor in the right axilla which had been present for two months. At surgery the mass was found to have involved the axillary artery and vein. At this time a shoulder girdle type of amputation was performed. Her postoperative course was uneventful. This patient, when last seen in October, 1949, was alive and well without any evidence of recurrence.

Case 4. C. E., a 51-year-old white male, was admitted in September, 1948, complaining of pain in the left hypochondrium and a tumor in that region. History revealed that 19 years prior to admission he first noticed a small tumor of the left hypochondrium. This tumor grew very slowly for 13 years and then began to increase in size quite rapidly.

In 1946, he was admitted and at that time the tumor measured seven by 14 cms. in diameter and had infiltrated the abdominal wall. The lesion was excised and was seen to have involved the anterior sheath of the rectus abdominus muscle. Microscopically the lesion was diagnosed as a fibrosarcoma of Desmoid variety. The patient then received two series of 12 x-ray treatments, totaling 16,300 r. The

patient was then symptom-free until June, 1948, when he gradually developed pain in the left hypochondrium and noticed the tumor was recurring. In September, 1948, the tumor was radically excised. The defect was closed with difficulty and ultimately broke down. A pedicle graft closure was attempted but failed. The patient is now alive without disease but the defect is healing slowly.

Case 5. F. W., a 51-year-old colored male, was admitted in July, 1948, complaining of a tumor on the medial, posterior and superior aspects of the right thigh. The patient stated that he first noticed the tumor in September, 1947, that since that time it had grown very rapidly. The lesion was excised with a preoperative diagnosis of lipoma. Microscopically it was found to be a fibrosarcoma. The patient was advised that a hemipelvectomy should be done. He refused surgery and was discharged. He returned in January, 1949, requesting that an amputation of the leg be done because of severe pain. A right hemipelvectomy was done under endotracheal anesthesia. The patient had an uneventful postoperative course. Pathological examination revealed the lesion to be a fibrosarcoma which had widely invaded the surrounding soft tissue.

#### Summary

Characteristics of fibrosarcoma have been given. Wide excision, even to the point of radical amputation, is advised. Five cases of fibrosarcoma have been reported showing the wide variation of age of onset, race, average duration of the disease from onset until admission to hospital and the number of excisions per patient.

#### Conclusion

1. Fibrosarcomata vary greatly in degree of malignancy.
2. They have a high rate of local recurrence.
3. They do not metastasize readily until late.
4. They are very invasive.
5. Wide local excisions with sacrifice of important structures, if involved, are necessary for a cure.
6. If wide local excision is not sufficient in an extremity, amputations to the point of interscapulothoracic or hemipelvectomy should be done in some cases.
7. Fibrosarcomata for the most part are radio resistant.

#### Bibliography

1. Stout, Arthur P.: *Fibrosarcoma*, *Cancer*, 1:30-63, 1948.

# Abdominal Aneurism—Presentation of a Case of Upper and Lower Aortic Aneurism of Different Etiology

E. M. Fillman, M.D.

Topeka, Kansas

Abdominal aneurism occurs infrequently. The symptoms are protean, and may simulate abdominal, genito-urinary or skeletal disease. If a pulsating abdominal mass is present the diagnosis is made easier. In the absence of a palpable mass the diagnosis is rarely made before surgical exploration or necropsy. Abdominal aneurism generally occurs in the age group between 60 and 80, predominantly in males suffering from chronic hypertension and advanced arteriosclerosis. In most instances the victims are those who have performed heavy manual labor.

The large majority of cases of abdominal aneurism are due to arteriosclerosis and are fusiform in type. Syphilitic mesarteritis is much more prone to occur in the thoracic segment of the aorta and results in a saccular type aneurism. Other less frequent causes are perforating abdominal stab or gunshot wounds and contiguous vascular disease with secondary injury to the aortic wall. In the arteriosclerotic type of aneurism the arterial wall is weakened as a result of degenerative changes occurring primarily in the media. Initially thickening of the intima and hyalinization of the media occurs. Later atheromatous plaques and ulcers may form, all this contributing to the destruction of elastic and fibrous tissue composing the media. The weakened wall gives way under constant strain forming a diffuse dilatation, the outer wall consisting of a thickened sclerotic adventitia. In most instances a dark brown laminated clot is formed and hammered down into the depression by the pulsating column of blood. Rupture is most likely to occur at a point near the origin of the sac from the aorta.

The blood extravasates in the retroperitoneal area on one or both sides of the spine. The leaves of the mesentery, Gerota's fascia, and diaphragm, are frequently infiltrated. A few cases have been reported of rupture into the stomach and duodenum.

Vertebral erosion is rarely produced by a fusiform type aneurism. Since arteriosclerosis of the aorta results in an elongation of the tube and some tortuosity, the aneurism does not necessarily lie against the vertebral column. This is in contrast to the sacculated type of syphilitic aneurism occurring in the thoracic aorta which commonly produces erosion of one or two vertebrae but not the intervertebral disc.

Abdominal aneurisms usually arise from the aorta distal to the origin of the renal arteries although

they also occur near the diaphragmatic hiatus, the Celiac axis, and also commonly at the bifurcation of the iliacs.

The clinical symptoms produced by aortic aneurism are variable and depend to some extent on the size and location of the aneurism. The pain present with a syphilitic saccular type aneurism is usually due to vertebral erosion and nerve root compression. Large and frequent doses of opiates are necessary to control the resulting constant severe radicular type pain. The type of pain produced by the arteriosclerotic fusiform aneurism is in no way constant. Frequently there is lower abdominal pain radiating into the groin area and down the thighs. The primary complaint may be of sacroiliac and hip pain. Pain may be felt in the lumbar area of either side which radiates around the flank into the inguinal area and into the scrotum simulating renal disease, or an aching, throbbing pain may be felt in the epigastrium. Loss of weight, anorexia and abdominal gaseous distention commonly occur.

In some cases the aneurism by its size produces indentation and displacement of the stomach, duodenum or transverse colon forming a basis for the gastrointestinal symptoms. Pressure on a ureter causing obstructive symptoms can explain the renal distribution of pain in a few instances. Initially, the pain tends to be of mild to moderate intensity and of an intermittent nature. As the aneurism increases in size the pain becomes more constant. The duration of symptoms is rarely more than one year, terminating in rupture of the aneurism and death.

In the presence of the above symptoms and a pulsating abdominal mass, the diagnosis is hardly in doubt. Investigations have shown that in cases of syphilitic aneurism the serological test is positive in hardly more than 60 per cent. The mass may be palpable in the epigastrium, left subcostal area, mid-abdomen or other regions. A bruit or thrill may be heard over the mass.

In the absence of a palpable mass the diagnosis can be baffling. X-ray can be useful. Actually, the roentgenologist fails to make the diagnosis in 80 per cent of cases despite the presence of adequate evidence on the films. In a few instances calcifications completely outline the aorta and the aneurism as an opaque mass. In most cases a curved continuous or broken line of calcification outlines a portion of the wall of the aneurism. This line tends



to lie to either side of the vertebral column and has its concavity directed toward the column. The calcific deposits may be so indistinct that close scrutiny of the film as well as multiple projections may be necessary. A calcified tortuous aorta must be differentiated. This is usually represented not by a single curved line of calcification but by a heavier calcific deposit so situated as to outline the length and width of the aorta throughout the greater portion of its abdominal course.

In a few instances the first sign of aneurism is that due to rupture. If the patient begins to experience a rather marked increase of pain which is felt both in the back and lower abdomen this may be taken as a sign of impending rupture. The beginning of a slow leakage of blood from the aneurism is manifested by the sudden onset of severe unremitting abdominal pain either generalized or localized in the lower abdomen, simulating an acute surgical abdomen. Early there is abdominal tenderness, leukocytosis, rigidity, rapid pulse and increase in temperature. Sometimes severe vomiting supervenes. As the hemorrhage progresses, pallor, low blood pressure and signs of collapse ensue. Over a period of a few hours to several days the abdominal rigidity gives way to abdominal distention and a clinical picture suggestive of an ileus may occur. Death usually occurs before the sixth day.

A somewhat smaller percentage of cases terminates rapidly due to a sudden flow of blood from a large break in the aneurism, death occurring in a matter of minutes. The patient feels something give way, this is then followed by collapse, loss of consciousness, feeble pulse, pallor, ineffectual respiration and instantaneous death.

The following case is illustrative. A 64-year-old machinist was admitted to the hospital April 8, 1950, with the complaint of rather marked pain in the right inguinal region. The pain was located over the site of an old herniorrhaphy scar and was of such severity as to seriously interfere with sleep the previous night. The patient had worked at his usual job the day before.

This patient was first seen in the Out Patient Clinic on February 23, 1949, when he had complained of pain in the right groin and sacroiliac area. Physical examination at this time was essentially non-revealing except for a blood pressure of 168/100. PA film of the chest showed rather heavy markings in both bases. The heart shadow was not enlarged but there was slight widening of the aorta. Sacroiliac strain was suspected and diathermy was prescribed.

On May 4, 1949, this patient was again seen in the Out Patient Clinic with a complaint of angina

and was given codeine, gr. one, every three hours for relief.

One week later the patient was again seen and this time complained of pain in the right lumbar region, right lower abdomen, and inguinal area. There had been a 10-pound loss of weight in the past two months. The discomfort was not serious enough to keep the patient off work but was annoying. A barium enema showed no abnormal findings. The blood pressure was 172/90.

Several months elapsed and although patient was seen in the clinic he did not complain further of abdominal pain but of other sundry complaints including constipation, dysuria and cough. On January 12, 1950, his blood pressure was 170/100.

On March 28, 1950, the patient again complained of right lumbar pain that radiated forward and down toward the inguinal region. A notation was made by the examining physician that the picture appeared to be typical of some right kidney pathology. Laboratory findings showed: Hb. 94 per cent, W.B.C. 7,400, R.B.C. 5,260,000. Urinalysis Sp. gr. 1.016, Albumin +, Sugar 0, W.B.C. 0-2, R.B.C. 0, occasional hyaline casts. Kline negative.

The patient returned to the hospital in three days with the complaint that the pain had become more or less constant and was relieved by belching or passing gas per rectum and by rest in bed. On examination, the abdomen was found to be thick walled, soft, non-tender, and no organs or masses were palpable. The prostate was of normal size, firm and smooth. A diagnosis of sacroiliac disease was again entertained and x-rays taken. These showed slight anterior marginal lipping of the lumbar vertebrae and moderate left lateral bridging between L 3 and 4. Both sacroiliac articulations showed slight sclerotic changes.

On April 8, 1950, the day of admission to the hospital, the patient had appeared at the clinic in the mid-morning and at this time was having pain of such severity as to make him unable to go to work. He was admitted to the hospital with the intention of doing retrograde pyelography the next day. That night one grain of codeine was given to alleviate pain which proved enough to afford sleep for the patient. At 7:45 a.m. just after the patient had finished eating breakfast he made the announcement that he was feeling sick to his stomach and suddenly slumped unconscious into his chair. His color was ashen gray. No pulse or blood pressure was obtainable. The respirations were shallow, ineffectual. All signs of life ceased after a period of 30 minutes.

A necropsy examination disclosed a small saccular aneurism measuring about 2.5 cm. in length protruding from the left side of the ascending aorta.

Its cavity was filled with a layer of old laminated clot plus a more recent appearing clot of dark red color.

The peritoneum of the left abdominal gutter was pushed forward almost to the anterior abdominal wall by a mass of freshly clotted and free blood. The extravasated blood extended downward from the spleen area into the pelvis, completely engulfing the kidney due to infiltration of Gerota's fascia. A fusiform aortic aneurism was located just proximal to the bifurcation of the iliac vessels. An area of rupture was present on the posterior surface. The lumen of the aneurism was partially filled with a gray laminated blood clot.

Microscopic examination of the thoracic aneurism revealed marked lymphocytic "cuffing" about the blood vessels, hyperplasia of the blood vessel lining, and marked destruction of the media of the aorta by this inflammatory infiltrate. Examination of the abdominal aortic aneurism showed diffuse necrosis of the media with marked arteriosclerotic thickening of the intima. The pathological diagnosis was syphilitic thoracic aneurism and ruptured arteriosclerotic abdominal aneurism.

A review of the abdominal x-ray films taken one week before death revealed a fusiform soft tissue mass lying to the left of the vertebral column be-

tween L 1 and L 5. The right border was lost in the shadow of the spine but the left border was rather clearly defined and followed closely the psoas muscle shadow. A few irregular calcific deposits were diffusely scattered within the mass, the largest measuring one cm. in length. In the lateral projection the mass measured seven cm. in greatest diameter and the nearest calcium plaque measured one cm anterior to the vertebral column.

#### Summary

The clinical and pathologic features of abdominal aortic aneurism are discussed. A clinical case is submitted which is unique in that both a thoracic and abdominal aneurism were present, each one having a different etiologic agent. This case illustrates well the frequent pitfalls encountered by the clinician in making a diagnosis of abdominal aneurism in the absence of a palpable abdominal mass.

#### Bibliography

The Clinical Behavior of Arteriosclerotic Aneurism of the Abdominal Aorta: A Rational Surgical Therapy, Arthur H. Blakemore, M.D., *Annals of Surgery*, Vol. 126, No. 2.

Aneurisms of the Abdominal Aorta, Joseph Epstein, *Annals of Internal Medicine*, Vol. 2, No. 2, February, 1945.

Aneurism of the Abdominal Aorta: A study of 73 cases, R. H. Kampmeier, M.D., *The American Journal of the Medical Sciences*, Vol. 192, No. 1, July, 1936.

Aneurism of the Abdominal Aorta, Arthur H. Blakemore, M.D., *The Surgical Clinics of North America*, April, 1946, New York.

Significance of Calcification for Roentgen Diagnosis of Aneurism of Abdominal Aorta, Edmund W. Klinefelter, M.D., *Radiology*, December, 1946.

## KANSAS MEDICAL SOCIETY ANNUAL MEETINGS

1951

May 14-17

TOPEKA, KANSAS

1952

May 5-8

KANSAS CITY, KANSAS



## PRESIDENT'S PAGE

Dear Doctor:

The smooth operation of Kansas Blue Shield allows us to forget the effort that has been, and is being, spent in perfecting this program. Enrollment, advertising, finance, administration, claims, processing and many other details require endless hours of intelligent, concentrated effort on the part of our employees. Behind them is the continual planning of the executive committee—a small group of doctors who give an enormous amount of time in the direction of this work. This unselfish, unrewarded service is donated to operate a prepaid medical care program toward the best interests of the people in our state and for the doctors of the Kansas Medical Society. The progress of Kansas Blue Shield is a tribute to their vision and work.

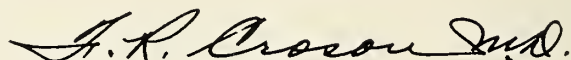
It is characteristic of this group to be the least satisfied with their results and they are constantly planning to improve the program. More adequate remuneration to physicians and more complete benefits to subscribers represent the poles of the problem. Both of these are affected by financial limitations. The possibilities of Blue Shield are enormous and far reaching if we, who operate the plan and give the service, are willing to cooperate wholeheartedly.

We are now evaluating the relationship of fees for the various services. We have an active professional relations committee extending directly into each county society. These contacts are important but they represent fringe activities—refinements in the program. The thing that is basic is that each subscriber must feel the services represent a benefit and a protection to him. Only you and I who give these services can sell these ideas. If our Blue Shield patients consider this voluntary prepaid plan an essential they cannot afford to be without, then we have discharged our obligation in this regard.

If, upon completion of the services, our patients feel that Blue Shield failed to abide by its contract; if they surrender their memberships; if they gain the impression that the benefits represent too small a portion of the total cost; then we have neglected our duties and our opportunities as participating physicians. When a patient, embittered toward medicine and disillusioned concerning voluntary health insurance, turns to support a compulsory program, he does so in retaliation. The fault in most cases lies not in an excessive cost or a neglect in service, but through our failure to adequately explain a few details to him. Interest in socialized medicine is fed by misunderstandings that could easily be solved if we spent an extra minute with each patient we contact.

Please allow me to urge your entire cooperation in this program which is our answer—yours and mine—to compulsory health insurance.

Sincerely yours,



President.

## EDITORIAL COMMENT

## Cancer Research

C. P. Rhoads, M.D., director of the Memorial Center for Cancer and Allied Diseases, spoke recently at the dedicatory exercises of the Sterling-Winthrop Research Institute. His subject, "The Next Half Century in Cancer Research," was considered of sufficient interest to be summarized for the Journal.

He begins by explicitly declaring this to be a flight of fancy which must be considered as such, since an effort to predict the course of research on any subject can be based on nothing but theory. This presentation must be considered in that light.

A possible infectious origin of cancer has been seriously considered for generations. If the cause of cancer is a parasitic microorganism not native to human beings, this fact is as distant from being proved today as ever. It has been established, however, that some likenesses between malignant growths and the action of bacterial infections exist. For instance, conjugated protein particles smaller than cells in size and different in some respects from known cellular constituents have been implicated beyond question as causing malignant neoplasms in plants, amphibians and fowls. There is evidence leading to further research with reference to rabbits and mice regarding the induction of invasive cancer through viruses. Nevertheless, no one has demonstrated the uncomplicated induction of neoplasms in mammals by any particle smaller than cells which satisfy entirely the criteria for infectious, contagious agents of the virus type. The infectious origin of mammalian cancer remains unproved. It is also true that malignancies can be produced by the use of physical agents.

Dr. Rhoads then reasons if one could show that some classic parasitic organisms which cause infectious disease are innocuous unless mutated, and if we could prove that cancer cells can be made to play many of the tricks which characterize bacteria, we might view the cancer cell itself as an invading microorganism. He cites the analogy between bacterial variations and the development by mutation of malignant variants of normally benign mammalian cells. As an example, the streptomycin-resistant or dependent strains might be considered cancerous in relation to their normal streptomycin-sensitive relatives and progenatives.

The picture is not complete, but in principle cancer cells can act like bacteria. Chemicals exert inhibitory effects on certain bacterial cells. Therefore, they must have different and characteristic metabolic activities. If different mammalian cells could be shown to have different sensitivities to one or

the other chemical, one must, in logic, assume that they, like different classes of bacteria, have different compositions. It follows, again, if their compositions are different, their metabolic activities also must be different, since the constituents of their protoplasm are constantly and rapidly being built up and broken down.

Unless the statements made so far can be refuted, and this has not been done to date, a still more important conclusion is justified. Let us grant that different types of mammalian cells, comprising different tissues, organs and specific parts of organs, differ one from the other. Let us assume that this is in respect to their comparative chemical constitution, uptake of constituent precursors and metabolic activity. Then it must follow logically that cancer cells, so different in form and function from normal ones, should also differ chemically and metabolically from their normal parents and relatives. If so, they should be susceptible to injury by chemicals which will not kill normal tissue.

A striking characteristic of bacteria is their ability to adapt to changing circumstances or environment. A classic observation is found in the studies of McNider with tubular nephritis induced by uranium salts. Here a specific injury to one type of epithelial cell is exerted. In the response to this injury the new cells formed are of a completely different form, and are wholly resistant to the compound which was toxic, and fatally so, to their parents. A more perfect example of an adaptive variation of mammalian cells can hardly be found. A similar phenomenon has long been observed in the inhibition of breast cancer by testosterone or prostatic cancer by stilbestrol. The early sensitivity to this drug is lost and eventually there is virtually no effect upon the malignant cells.

Granting then on admittedly inconclusive evidence that bacteria and cancer cells are susceptible in a very general way to similar rules of conduct, it may be deduced that the preferential toxicity of chemicals might be applicable to cancer cells. Perhaps the etiology of the disease, cancer, is the cancer cell itself, a vigorous, aggressive and relentless mutant of orderly normal parents. Few phenomena are so widespread in the world of biology as the tendency of cells to mutate, to acquire new characteristics and to vary in their competitive or neoplastic position in relation to their associates. If this is the case, we can regard cancer as simply another problem in the chemotherapeutic destination of an invasive and lethal microorganism. Even if the case for this view is not completely established, does it not justify serious consideration in our effort to obtain new and important data of potential therapeutic value?



## The "Feel" of the Patient

Medical progress has contributed more to human welfare during the past half century than any other profession. The modern surgeon, free to draw upon specialists in almost unlimited fields of pathology, physiology and chemistry, has become an expert in technical procedure, but as a result may have lost some of the "feel" of the patient. He thinks of the gall bladder and is apt to forget that the patient is "a feeling person with hopes and ambitions, with disappointments and frustrations, who worked, loved and played."

The presidential address at this year's annual meeting of the Central Surgical Association was delivered by J. Dewey Bisgard, M.D. This address contains some interesting observations on the patient as an individual human being and his relationship to the surgeon. The author states that the surgeon must, more than most people, understand the "feel" of the patient because no one is given a freer hand in dealing with the lives of others. It is not often that the surgeon's judgment is questioned and in the operating room it is absolute, for under anesthesia there is no minority report.

"As the time of operation approaches, the patient's anxiety usually increases. Fortunately, surgeons know this, and most patients are spared full awareness of one of the most disturbing parts of the whole surgical experience, the ritual of the operating room. It is well to be mindful that a blindfolded patient, dulled with sedation, is likely to place a personal interpretation on the activities and conversation that go on about him in the corridors and rooms of the operating suite. Often both the patient and his family can be spared anxious moments of suspense by words of reassurance or an explanation of events, such as a delay in the operative schedule.

"Immediately after operation repressed anxiety emerges to manifest itself in several ways. Besides the affective expression of anxiety, there are somatic repercussions. Air swallowing, the most common one, is probably responsible in part for nausea, vomiting, distention and gas pains. Later, to compensate for the preoperative anxiety, there is a release of a certain amount of exhibitionism. The patient accentuates the hazards of the operation and the narrow escape from death, and his humor, which before operation was a gallows type, becomes unrestrained. The more gifted write books about their experience.

"The regressive behavior which manifests itself by dependency increases after operation, and the most important contribution of early ambulation is the breaking up of adhesions which bind down patients with habits of invalidism. To get 'back on his

feet' is symbolic to the patient of regained command of his destiny.

"Again, the surgeon's responsibility does not end with recovery from operation. His surgical craftsmanship should not constitute a straight jacket that prevents participation in the personal, social and economic problems of his patients. He should understand that the medical profession has a social responsibility beyond medical care. Often there are problems, such as anxiety about temporary or permanent disability, financial support of dependents, job replacement and personal adjustments. Medical social service and other social agencies have done an invaluable job in meeting some of these responsibilities. Yet the need for these services was recognized by the profession with the same reluctance with which it has relinquished a status quo attitude in medical economics and accepted the challenge of an expanding social security movement.

"An attempt has been made to point out the need for cultivating what has been termed 'the feel of the patient.' This quality of understanding may be intuitive or acquired from a knowledge of the way people live. It comes from liking people and from an interest in human relationships, from an awareness of the patient as an individual, the development of confidence and the providing of an opportunity for the patient to reveal himself. It creates a state of sympathy which ameliorates the whole surgical experience. 'The feel of the patient' may be naive or sophisticated depending on the degree of interest, training and ability; no matter on what level, it is always an enriching and rewarding experience."

## Labor Viewpoint

The heated tirade against medicine and particularly against the educational campaign issued by the C. I. O. has again brought into sharp contrast the divergent opinions regarding socialized medicine. It is not entirely unfair to the C. I. O. to imply that the philosophy expressed in that statement extends beyond the issue of health to include the larger division between free enterprise and socialism.

It is interesting and heartening to find Kansas labor, or at least one segment of Kansas labor, challenging the C. I. O. advertisement. On Wednesday, November 1, Mr. Wendell Arndt, president of the Topeka Brotherhood of Firemen and Enginemen, delivered an address over a Kansas radio station in which he declared open opposition to the statements made by so-called organized labor.

Mr. Arndt is a very thoughtful, studious, young man. He reasoned that he hoped every possible gain could be made for labor but that this would be without benefit unless it represented a gain for

management also. He thoroughly exposed the myth of organized labor voting as a unit by declaring that no one would direct his voting and that of his friends. The laborer will vote as an individual according to his own knowledge and according to his own belief.

Mr. Arndt then express a few of his beliefs. With surprising insight he declared his opposition to socialized medicine on the grounds that such a program would sponsor increased bureaucratic control, and because of regimented tactics would inevitably result in inferior care even though huge sums would be expended.

He spoke of free enterprise and of his faith in this type of democracy. By free enterprise he inferred its application to all phases of life including the operation of railroads. At several points of his address he reiterated his belief that unless labor and agriculture and management and the professions and everyone works together there would be no permanent gains for anyone. It was surprising and comforting to know that a young man in the ranks of labor had the courage to speak plainly about his convictions on this subject. His address is an indication that the professions can work with labor.

It is recommended that the medical society accept this opportunity by giving every cooperation to Mr. Arndt and to the many others who feel as he feels about the problems in America today. The medical profession has long expressed a desire to cooperate with any person or organization interested in the preservation of democracy for America, and this expression from the Brotherhood of Railroad Engineers represents a willingness on the part of labor which, it is believed, should be very promptly resolved through a program of practical expression.

### Federal Legislation

Following the temporary adjournment of the 81st Congress as of September 23, 1950, the American Medical Association Washington office issued a bulletin summarizing the action taken by this Congress on 406 bills and resolutions affecting medicine. The Congress plans to reconvene on November 27 but will finally adjourn prior to January 2, 1951. On that date the 82nd Congress will convene and all pending legislative proposals of the 81st Congress will die.

Among some 25 laws enacted that were of interest to the medical profession are the revised Social Security bill, adding some millions to the program and broadening benefits, an amendment to the Hospital Construction Act increasing contributions (which, incidentally, was cut in half later), increased appropriations for the World Health Organization, and the doctors draft.

There were some 35 or more national health bills, a long string of bills offering aid to medical education, and one attempt to create a cabinet place for health, all of which were defeated or laid aside without action.

Considering the volume of legislation of interest to medicine that came under scrutiny of the 81st Congress, this record is a tribute to the members of both houses and to the medical profession for carefully and logically evaluating the legislation under consideration. This record again illustrates the soundness of American democracy, proving that a representative of the people will vote in the public interest if accurate information is made available to him.

### Narcotics Violation

Dr. Hugh A. Hope, Hunter, after pleading guilty to four violations of the federal narcotics act, received his sentence before the federal court in Topeka, on October 13, 1950.

According to press releases covering this action, Dr. Hope was sentenced to serve one year and one day in a federal penitentiary and to pay a fine of \$3,000. After completion of the prison term, he will be placed on parole for a period of three years. The judge permitted Dr. Hope to return temporarily to his home for the purpose of completing his affairs but directed him to submit himself to the United States marshal at any time prior to December 1, 1950, to start serving his sentence.

### Officers for Kansas Division, A.C.S.

New officers for the Kansas Division of the American Cancer Society were elected by the board of directors of the group at a meeting held at Wichita early in October. Dr. Orville R. Clark, Topeka, was named president; Mrs. Tom Stewart, Wellington, vice president; Mr. J. W. Kirkpatrick, El Dorado, secretary; Mr. J. D. Bjorkman, Kansas City, treasurer; Mr. W. Laird Dean, Topeka, chairman of executive committee. The new president, Dr. Clark, is a former chairman of the Committee on Control of Cancer of the Kansas Medical Society, and has been serving as a member of the Editorial Board of the Journal of the Kansas Medical Society for several three-year terms.

Dr. C. C. Nesselrode, Kansas City, former president of the American Cancer Society, was presented a distinguished service medal for his "important contribution to the control of cancer."

A cash prize of \$250 will be awarded annually by the American College of Chest Physicians for the best original contribution, preferably by a young investigator, on any phase relating to chest disease. Entries will be accepted no later than April 1, 1951.



# Case Report from the University of Kansas Medical Center

## Chorionepithelioma Diagnosed Late

### Clinical Pathological Conference

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of medicine, neurology, obstetrics and gynecology, pathology, roentgenology, and the junior and senior classes of medical students.

#### Case Presentation

N. J. N., a 23-year-old white female, was first admitted to the x-ray service on March 29, 1950, at 1:00 p.m. The patient was comatose throughout her hospital stay. The history for the most part was obtained from the referring physician, and to a lesser extent it was obtained from the husband.

The patient first consulted her local doctor on August 22, 1949. At that time her last regular menstrual period had been June 15, 1949. She felt she was pregnant, as did the local physician. She was spotting some at this time, and was sent home to rest. The pelvic examination at a slightly later date was essentially normal. On approximately December 15 the patient passed blood clots and fetal membranes by the vagina. Following this a dilatation and curettement was done and the tissue was sent to the University of Kansas Pathology Department and reported to show no malignancy. Recovery at this time was uneventful.

On February 17, 1950, the patient began bleeding again. After several days of copious bleeding she was taken to the hospital and a dilatation and curettement was again done. At this time a very small amount of black decomposed tissue was recovered and it was suspected that she had again passed products of conception. From this she also made an uneventful recovery.

About one week following dismissal from the local hospital she developed pain in her right side. The physical findings were such that the local physician suspected an acute appendix. She was hospitalized, but she was not operated upon. The diagnosis of acute nephritis was made from her blood chemistry and urine studies. (The actual data of these studies is not available.) She also had some blood in her urine at this time.

The patient was placed on a salt-free diet and medication, and was allowed to go home from her local hospital. From this time on she lost weight, becoming progressively weaker. Vomiting and headaches developed during March. Because of progressive worsening and severe headaches, she was admitted to her local hospital for the fourth time on March 25, 1950. While in the hospital she had a severe vaginal hemorrhage, which was accompanied by passage of semi-soft, friable tissue. There

was also noted a mass in her left abdomen at this time.

From March 25 until the patient's admission here on March 29, 1950, she had intermittent periods of coma. These, according to the husband, were becoming progressively longer and more severe.

On admission to this hospital the patient was comatose. The temperature rectally was 103° F., the pulse 140, respiration was shallow and rapid, the rate approximately 40 per minute. The patient was not weighed upon admission, but was obviously obese. Her skin was dry and warm. Her pupils were irregular and did not react to light. Both lung bases were dull to percussion. The liver was felt three fingers below the costal margin, and it was felt that there was a mass in the lower left quadrant, which was approximately 15 cm. in diameter. She was considered to have a left hemiparesis. The neurosurgical consultant found papilledema, two diopters.

Laboratory examination: Complete blood count showed 3,930,000 rbc., 15,450 wbc., 85 per cent polys, 10 per cent lymphocytes, four per cent monocytes. The urine, catheterized specimen, showed one plus albumin, numerous amorphous, granular casts, and occasional pus cells. N. P. N. was 42.5, creatine 1.85, and sugar 110.

Hospital course: The patient did not regain consciousness throughout the hospital stay. Her temperature went up to 108° F. rectally. Her condition became progressively worse until her death approximately 11 hours following admission.

Dr. Delp: Are there any questions for Dr. German?

Question: Is there any record of the patient's having a menstrual period since January?

Dr. German (Roentgenology resident): There is no record of it.

Question: Was the material obtained on the day of the dilatation and curettement on the 17th of February, studied microscopically?

Dr. German: No, apparently not.

Question: Were any Friedman tests made?

Dr. German: One was started but not finished until after death.

#### Differential Diagnosis

Dr. Delp: There were no electrocardiographic tracings nor x-rays of any value to this case. Mr. Pokorny, will you present your differential diagnosis.

Mr. Pokorny (Student): This case is of interest because I think it might be easier to diagnose in

retrospect than it was back in February, and it would be interesting to know more about this material obtained by the dilatation and curettement.

The thing that we have here is a patient who was pregnant, who aborted, who was sent home from the hospital and began to bleed again. She was returned to the hospital for repeat curettage. Within a month she began to develop signs of increased intracranial pressure, such as vomiting and severe headaches. She began having vaginal hemorrhage again. At this time she also passed some semi-soft friable material by the vagina. It would be interesting to know more of the physical characteristics of the exudate.

Some of the things to be considered in a differential diagnosis would be an infection, carcinoma of the cervix, which in this age group is unlikely, and carcinoma of the fundus of the uterus. This again would be unlikely. The most likely diagnosis and the one which I will make is chorionepithelioma. One thing that is a little unusual is the spotting during her pregnancy before she aborted. Whether that was due to the disease which caused her demise or whether that was a complication of her pregnancy, which led to her abortion, I can't say at this time. Chorionepithelioma is a malignant cancer of the product of conception. It very readily metastasizes.

Other diagnoses, such as carcinoma of the body of the uterus or carcinoma of the cervix, wouldn't yield such evidence of widespread metastases. The nephritis which she had may have actually been metastases to the kidney or metastases somewhere in the urinary tract which caused bleeding. In about 10 per cent, at least, of the cases reported, chorionepithelioma metastasizes to the brain and would give the symptoms of brain tumor which she had on admission. The most frequent place for metastases of chorionepithelioma to occur is in the lungs. Very often the first indication patients of this disease have is coughing and spitting of blood. Apparently she didn't show this pulmonary picture at all.

Death within four months after the abortion is not at all unlikely in chorionepithelioma.

Dr. Delp: Would you have had any suggestions for this patient's management?

Mr. Pokorny: Surely the material that was obtained in February should have been studied microscopically.

Dr. Delp: Presuming that your diagnosis could have been established then, what would you have to suggest?

Mr. Pokorny: At that time there was no evidence of distant metastases. Of course, that doesn't mean there weren't any, but removal of the uterus or the point of original foci of the cancer often causes a regression of the distant metastases. Also, the dis-

tant metastases are amenable to x-ray therapy after removal of the original cancer.

Dr. Delp: Other than examination of the expelled material to which you have already referred, do you have any other way of establishing the diagnosis?

Mr. Pokorny: In pregnancies the Aschheim-Zondek or Friedman test would be positive. If any parts of conception are retained after abortion, she would still have a positive Aschheim-Zondek or Friedman test. One month after her abortion, if another one had been run and still was positive, I think a quantitative determination should have been done. A positive reaction from one cc. of urine is an indication of pregnancy, from a dilution of 1/10 cc. indicates hydatidiform mole, and a positive reaction from a dilution of 1/3 cc. supposedly indicates chorionepithelioma.

Dr. Delp: Dr. Steegman, I would like to have your discussion of the case inasmuch as she was comatose and quite unresponsive at the time she entered here. What should we have considered in our differential diagnosis?

Dr. Steegman (Neurology): I think that even though the diagnosis that Mr. Pokorny made may be correct, it is always wise to see if you can think of some other things that might affect the patient with this sort of history. Of course, obviously the patient wasn't in the hospital long enough to be studied thoroughly. But the point was that you had a patient who was comatose with papilledema with this history of what could have been, perhaps, an abortion. At the time the patient was admitted, there were clearly findings of increased intracranial pressure for which no reason was found. In fact, the pulse was elevated, the patient had fever; the patient had leukocytosis. Following an abortion, multiple brain abscesses will cause, occasionally, increased intracranial pressure. Assuming that the patient had a septicemia with a focal embolic encephalitis, so-called, and eventually multiple abscesses, that would explain the toxic picture. Another thing that occurs following an abortion is thrombosis of the sagittal sinus with frequent multiple abscesses of the brain. There has already been a discussion of the possibility of chorionepithelioma or some other type of metastatic tumor that metastasizes to the brain.

Considering that this patient had such a short time of observation in the hospital here, obviously, it would be hard to make a positive diagnosis. Certainly, one would have to think of a metastatic brain lesion.

Dr. Tice (Roentgenology): It seems to me that the fever in this case can be explained by the fact that she had a highly anaplastic tumor also undoubtedly degenerative as it develops. So there must



have been some necrosis. I assume there was. As Dr. Steegman says, the location of a tumor of the brain might be a factor in the patient's fever.

#### Pathology Report

Dr. Wyatt (Pathology): At the time of autopsy general inspection revealed an obese white female who appeared to be in her twenties. On opening the peritoneal cavity 1500 cc. of serosanguineous fluid was present. Both the right and left thoracic cavities contained approximately 40 cc. of serous fluid. The lungs were slightly increased in weight and congested at the bases. Both contained numerous nodules varying from one to three cm. in diameter. On cut section these were dark red and shaggy and necrotic in appearance. The liver was over two to three times its normal weight, weighing 3,680 gm. Almost all liver substance was replaced by a shaggy, dark red friable material. It is difficult to recognize any liver tissue because all of it in the section was replaced by hemorrhage and by trophoblastic nodes.

Both ovaries were enlarged and were between about 10 and 14 cm. in diameter. They were cystic. The capsules were stretched tightly so that they were easily ruptured. A large amount of serosanguineous fluid was present in the multilocular cysts. There

were also some greenish-white, gelatinous, grape-like structures found in the ovaries.

The kidneys were slightly increased in weight. The right kidney showed a three cm. tumor nodule giving the same gross appearance as some of those previously described. In the same right kidney there was an extensive amount of subcapsular hemorrhage.

In the upper right fundus of the uterus there was a three cm. mass, which was semifriable, bluish-purple in color, and shaggy on cut section. It was seen to be infiltrating the uterine wall for approximately half the thickness of the uterine wall.

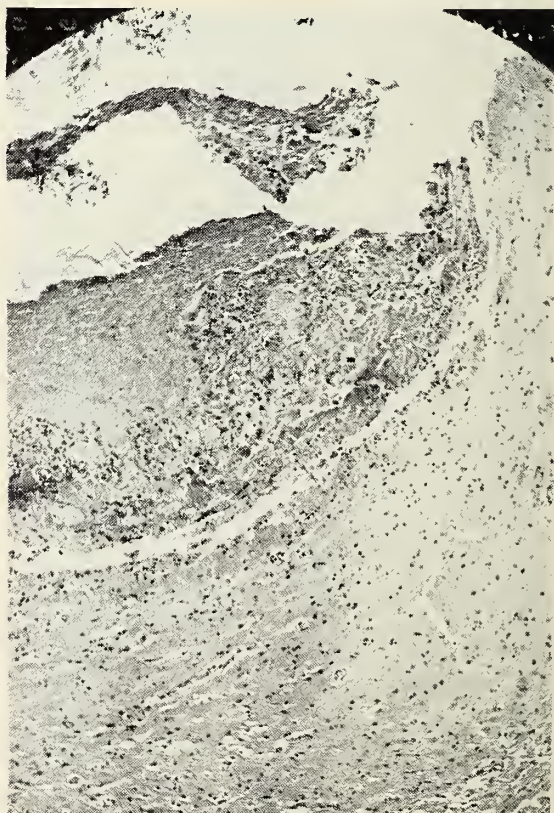
In the upper one-third of the jejunum there was another typical tumor nodule measuring two cm. in diameter. Its location was in the submucosa overlying which there was some ulceration of the mucosa.

In the brain was a tumor nodule in the left frontal area which was about two cm. in diameter. There was another one in the posterior lateral ventricle just adjacent to it. The right brain showed two smaller nodules of metastatic lesion.

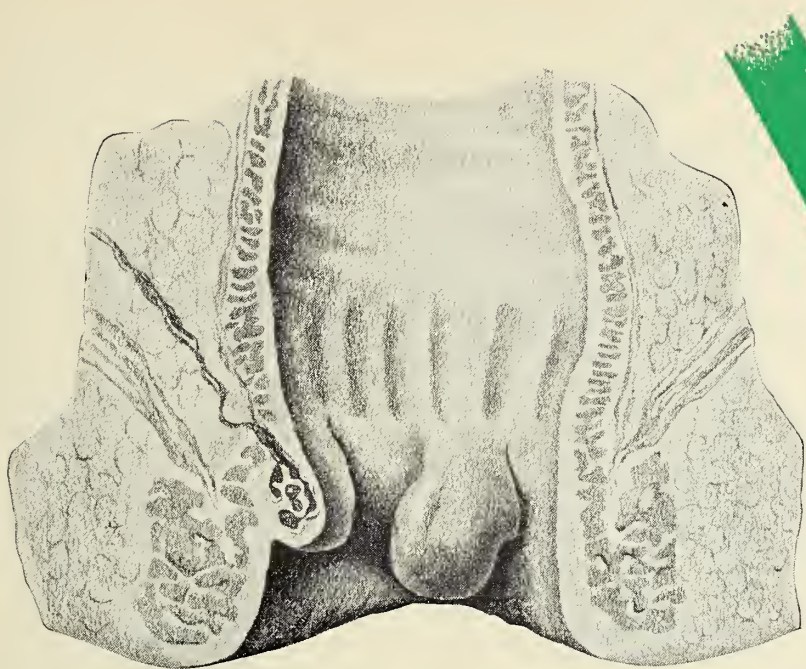
The gross anatomical diagnosis was chorion-epithelioma of the uterus with metastases to the jejunum, kidneys, liver, lungs, mesenteric lymph nodes, spleen, brain; hydroperitoneum; and bilateral cystic enlargement of ovaries.



Metastasis in portal space of the liver. Note both types of trophoblastic cells.



Cerebral metastasis containing syncytial and Langhans types of trophoblastic cells, with extensive hemorrhage.



## Bowel Regulation in Hemorrhoidal Conditions

When there is a tendency toward hemorrhoids, when hemorrhoids are present or after hemorrhoidectomy—when avoidance of straining is desired—Metamucil's smooth, demulcent action conforms to accepted bowel management.

Metamucil softens the fecal content, stimulates peristalsis by supplying plastic, bland bulk and encourages easy, gentle, regular evacuation without irritation or straining.

Metamucil is the highly refined mucilloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent.

G. D. Searle & Co., Chicago 80, Illinois.

**SEARLE** RESEARCH IN THE SERVICE OF MEDICINE



# METAMUCIL®



I might add one thing. An interesting finding throughout the areas of tumor metastasis are areas of greenish-yellow discoloration that is kernicterus. It is one of the best cases we have ever had of that, especially with the green color. Now and then we get brains that have the yellow discoloration but not such a striking green color.

Dr. Gibson (Pathology): Note a metastatic lesion in the uterine wall which consists of large areas of fibrinoid material and trophoblastic cells including Langhans' cells and syncytium. These lesions are quite characteristic of chorionepithelioma and are named trophoblastic nodes. The lungs show similar trophoblastic nodes as does the liver, spleen, and kidneys. Sections of the kidney show a moderate chronic glomerulonephritis. The brain also shows trophoblastic nodes showing large hemorrhage, fibrinoid material, and trophoblastic cells scattered throughout.

Chorionepithelioma is a difficult diagnosis to make histologically. This can be seen if we consider the fact that two of the characteristic features are trophoblastic proliferation and invasion and destruction of tissue. These characteristics are also found in hydatidiform moles and also in normal trophoblastic tissue. So it is merely a matter of degree of trophoblastic proliferation and the degree of the invasion of tissue that distinguishes the normal trophoblastic tissue from the hydatidiform moles and from chorionepithelioma.

In chorionepithelioma the characteristic lesion is the trophoblastic node that occurs in tissue, replaces it, and destroys it. It is characterized by large amounts of hemorrhage, fibrinoid material, Langhans' cells, and syncytium. Most authors agree that from the histological picture alone you can seldom predict whether there is going to be a benign or a malignant outcome.

There are a few other things that are peculiar about this tumor. One is the fact that in chorionepithelioma and hydatidiform moles and a normal trophoblast there is hardly any difference in the individual cell morphology. This is peculiar when you stop to think about it because all our other neoplastic growths show varying degrees of anaplasia when compared with their parent cells. Also, in a considerable number of cases of chorionepithelioma, regression of the primary tumor as well as of the metastasis has been observed. Some authors claim that this has appeared in as high as 10 per cent of their cases. There is no explanation for it. This has been observed most commonly in females with metastases to the vagina and the vulva where these metastatic nodules have been actually seen to regress. They have also been reported in pulmonary lesions. One such patient who was diagnosed as

having chorionepithelioma with metastatic lesion, in the lungs has been reported. The lungs were seen to regress roentgenologically and the patient died from some unassociated cause a short time later and no evidence of chorionepithelioma was seen at autopsy. Such things we cannot explain.

Another inconsistency is the site of origin. It is the only tumor that is presumed to arise from fetal tissue. It arises from chorionic villi supposedly, not from focal tissue but from fetal tissue. There was a recent review of this subject by Park and Lee that appeared in the Archives of Pathology which suggested a maternal origin for this tumor rather than a fetal origin.

The main thing, I think, to remember about chorionepithelioma is that it is a very difficult tumor to diagnose with any degree of assurance. Many people feel that the only way you can arrive at a diagnosis and be sure that the patient has chorionepithelioma is to have the patient die of chorionepithelioma. If the patient survives, she had a hydatidiform mole instead of chorionepithelioma.

Dr. Boley (Pathology): There is another thing that might be mentioned. Large and cystic ovaries are found in hydatidiform mole as uniformly as in chorionepithelioma.

#### Clinical Discussion

Dr. Critchfield (Obstetrics and Gynecology): This is a rare disease. It is peculiar in several respects. The rarity, I think, can be pointed out by some of Novak's figures. He estimates that molar pregnancies, or those pregnancies displaying hydatidiform moles and other trophoblastic abnormalities, occur in about one in 25,000 pregnancies. Of those molar pregnancies which progress to chorionepithelioma and choriocarcinoma such as we see in this case, perhaps about one to two or even as high as 10 per cent will go into malignant change. So you see, we start there with a possibility of as low as one in every 250,000. Others have quoted lower frequencies. About half of the chorionepitheliomas are thought to arise from some form of molar pregnancy. One-fourth of the chorionepitheliomas come on after a full term normal delivery. The other one-fourth follow spontaneous abortions. As Dr. Gibson has pointed out, we know that we find "chorios" in ectopic sites. There are cases reported, of course, of "chorio" occurring in the lung of the patient who had had a hysterectomy some 10 years previously. If we go to other statistics, it seems unlikely that that "chorio" arose as a complication of pregnancy. Hertig's series, published in recent years (200 cases), reports five cases of choriocarcinoma, all of which died within two years following the establishment of any diagnosis suggestive of a molar pregnancy of any sort.

# Nothing Competes with the Lure of Sweets



Use it in Sulfonamide Therapy

● Reactions ranging from mild antagonism to overt rebellion are to be expected when children are confronted with bad-tasting medicine. Contrast this with juvenile enthusiasm for DUOZINE *Dulcet* Tablets.

Here's medicine that sweets-loving small fry (and many adults) really enjoy—sulfadiazine-sulfamerazine disguised in orange-colored, candy-flavored cubes.

Mothers find DUOZINE *Dulcet* Tablets easy to administer in exactly the prescribed dosage. You'll find them effective in many systemic infections. The combined sulfonamides are independently soluble in the urine, with the result that high blood levels can be maintained with small likelihood of crystalluria and renal damage.

DUOZINE *Dulcet* Tablets, sulfadiazine-sulfamerazine in equal parts, are available in 0.3-Gm. and 0.15-Gm. potencies, bottles of 100. Mighty "take-able" medication when sulfonamides are indicated.

Abbott



See that the Rx reads



## DUOZINE *Dulcet*® Tablets

TRADE MARK

(SULFADIAZINE-SULFAMERAZINE COMBINED, ABBOTT)

® MEDICATED SUGAR TABLETS, ABBOTT



I think the clinical course of this patient was interesting. Dr. Boley has stated that there was no evidence of malignancy in the tissue that was obtained from the dilatation and curettement in December. Quite frequently the tissue which is passed spontaneously even when chorionepithelioma exists already will not show any evidence, so we don't pay much attention to the reports that we see on simply vesicular tissue which is passed except for the fact that the appearance of vesicular villi, as Dr. Boley has said, are more infrequently in association with frank malignancy. Curetting of the endometrium may be of help, if it is positive. Aside from the histological characteristic of the cell itself, we always want to know if there is actually complete destruction, coagulation necrosis, or hemorrhage. That may not be demonstrated on the basis of the curetting alone. Also there is the possibility that the "chorio" is arising beneath the surface and curettings themselves would not give us the story. So we are at a great disadvantage.

The metastases of this lesion have been reviewed. About 50 per cent of them will show retrograde metastases into the vagina or into the vulva. Those metastases may occur early or they may occur late. Quite frequently they do occur early and with the appearance of a hemorrhagic bluish, red-black, almost hematoma-like lesion in the vagina or on the vulva, biopsy may give some indication of what is happening. The lung is one of the earlier sites of metastases followed in rapid succession by the brain, liver, and kidneys. We have already mentioned the fact that chorionepithelioma is a highly malignant tumor. I think the literature will give a mortality of 60 to 80 per cent in these cases. Strangely enough, however, as high as 10 per cent will undergo spontaneous regression and in later years, autopsy shows death from some other cause with no evidence of chorionic lesions in the uterus or in the body at any point. We are at a loss to explain why that regression occurs.

This patient had a mass in her lower left quadrant when she came in. About 50 per cent of cases will show gross enlargement of the ovary, the so-called theca-lutein cyst, a hyperreactivity of the theca cells which line the granulosa cell follicles. The theca cells have been referred to by some as the analogues of the lining cells of the testes, the so-called interstitial cells. And for the most part, it is the theca-lutein cells which undergo this great reactivity during the short course of the chorionepithelioma. There are, however, certain cases which show marked hyperreactivity of the granulosa theca cells of the ovary. So that again presents a confusing problem. We don't know exactly which of the gonadotropins are involved in this procedure. The

luteinizing hormone or the follicle stimulating hormone, perhaps both are involved.

The pituitary gland on this patient showed nothing unusual. However, Marchand, who first wrote the classic work on chorionepithelioma, was interested in the pituitary and its manifestations in this disease. We know that the ovarian steroid hormones and their metabolites reflexly do have powerful stimulating activity on the pituitary gland. The idea has been advanced that some of these unexplainable changes may take place on the basis of pituitary hormones rather than because of the trophoblastic gonadotropins which are produced. We do know that similar changes cannot be produced in many animals simply by the injection of chorionic gonadotropin. However, a little better success has been met by the experiment of pituitary implants. Whether that, as it is developed, will explain anything in regard to some of these mystifying features of this disease, we don't know.

As far as the actual level of gonadotropins produced by the trophoblastic tissue is concerned, we go through alternate waves of enthusiasm and depression in their regard. We do know that the ordinary benign molar pregnancy may give us positive qualitative Friedman reactions, A-Z reactions, for as long as three to four months following apparently complete evacuation of the tumor tissues. We also know that if we are to catch the choriocarcinoma at a stage where it is still amenable to surgery and x-ray, we must catch it before that period of three to four months has elapsed. Throughout most of pregnancy the ordinary level of gonadotropins in the urine is from 20 to 200 international units per cc. However, almost exactly four weeks following the first day of the expected but missed menses, the gonadotropin content of the urine does mount rapidly. It may reach levels which even exceed those levels seen in the hydatidiform moles and also in the chorionepithelioma. As high as 200,000 international units per cc. may be reached. Characteristically, however, in the normal pregnancy the urine assay drops rapidly and over a period of anywhere from several days to two weeks after delivery assumes the usual base line of 20 to 200. Of course, the hydatidiform mole and the "chorio" would tend to continue to maintain the high levels or go on up from there. So repeated examinations are important.

We don't feel that we can differentiate benign hydatidiform mole from the malignant chorionepithelioma on the basis of hormone assays alone.

Dr. Delp: I would like to point up the practical clinical aspect of this problem. How could this woman's life have been spared?

Dr. Critchfield: Little danger signs appeared all

## more physicians are satisfied

The development of the new improved Biolac supplies a long-sought need in infant nutrition. To accomplish this, Borden scientists surveyed our present nutritional knowledge. They then tested more than 500 formulations. Having decided on the formula that would best supply the normal infant's nutritional requirements in their most assimilable form, a modern plant was constructed in 1949 so that the new formula could also benefit from the most up-to-date techniques and control in processing equipment. A Biolac formula that is both new and improved is thus made available.

Biolac is intended for prescription by every physician with infants among his patients. It satisfies the physician's demand for a complete food to which only vitamin C need be added. That means it is simplicity itself to prepare and provides the maximum in formula safety for the infant.

And yet, for all these advantages, Biolac costs no more.

For up-to-date, complete  
infant nutrition, prescribe  
new improved

# Biolac<sup>®</sup>

a development of  
The Prescription Products Division  
The Borden Company

*Ingredients:* skim milk, dextrins-maltose, dextrose, lactose, coconut oil, destearinated beef fat, lecithin, sodium alginate, disodium phosphate, ferric citrate, vitamin B<sub>1</sub>, concentrate of vitamins A and D from fish liver oils, and water. Homogenized and sterilized.

*Dilution:* one fluid ounce to one and a half ounces of boiled water for each pound of body weight.

Biolac is available in 13 fluid ounce tins.



The Borden Company, Prescription Products Division

350 Madison Avenue, New York 17



through the course of this pregnancy. The last menstrual period was the 15th of June. She was first seen two months later, the 22nd of August, giving a history of spotting. The passage of blood from the vagina at any time during pregnancy is abnormal. True, it may be as simple a thing as a severe vaginitis which is causing it, or it may be a threatened abortion. The spotting of blood should be noted and should be kept in mind throughout the patient's pregnancy. Pelvic examination at a slightly later date is said to have been essentially normal. It would be interesting to know whether the examiner detected any apparent acceleration of uterine enlargement over the normal at this time. We do have as one of our signs in a hydatidiform pregnancy the more rapid than usual enlargement of the uterus. The patient passed blood clots and fetal membranes. The fact that she passed membranes which apparently showed benign hydatid changes at that time does not mean that this tumor may apparently undergo a stage of latency only to flare up at a later date.

In February she again began to bleed and passed black decomposed tissue. I think that is the time when everyone would have become highly suspicious. Hertig states that more valuable than even the endocrine determination is a story of subinvolution of the uterus accompanied by bleeding, particularly if there is passage of tissue of any type. I think that perhaps at that time this patient should have had another curettage. It might have helped. Certainly a qualitative A-Z test done at that time, if it were negative, would perhaps have lulled us into a false sense of security. And it should have been made. However, if that test were positive, I think right then would have been the time to have quantitative Friedman examinations and determination of chorionic gonadotropin. If a high level were found. I think the patient should have a hysterectomy. Hertig describes various forms of molar pregnancy. It is possible that even at that early stage metastases might have taken place and the woman's life couldn't have been saved. Strangely enough, there seems to be a brake put on a small group of tumors, about 40 per cent of his malignant ones, whereby total hysterectomies seem to offer a cure. I won't offer that as a definite probability but I think that if the patient had been worked up from that February date, the possibility of saving her life might have existed.

#### Summary

Once more we witness in this case the ravages of malignant disease in a young individual still in the useful years of life. It serves to reemphasize our inadequacies in the diagnosis and treatment of many malignant processes. We hear the specialist say this lesion could have been cured had we seen the pa-

tient earlier. These are familiar words but ineffective. Perhaps more effort should be made by all agencies interested in reducing mortality from cancer to teach practicing physicians such as ourselves the hard essential facts that have to do with making an earlier diagnosis. We hear little of long discussions dealing with abnormal histology. We need more teaching in clinical features to participate in giving the most to the greatest number now. This case we think makes obvious this point. Academically, it is an unusual and interesting case.

#### Bibliography

- Hertig, A. T., and Sheldon, W. H.: Hydatidiform Mole: Pathological-Clinical Correlation, 200 Cases., *Am. J. Obst. and Gynec.*, vol. 53, pgs. 1-36, Jan., 1947.  
 Novak, Emil: Gynecological Obstetrical Pathology, W. B. Saunders, 1947.  
 Park, W. W., and Lees, J. C.: Choriocarcinoma, *Arch. Path.* 49:1, 73, 1950; 49:2, 205, 1950.

#### Oregon Case Dismissed

For some years the federal government has been preparing a suit against the Oregon State Medical Society, a number of county societies and individual physicians, to prove that the Sherman anti-trust act had been violated in the prepaid medical care plan sponsored in that state.

The government charged that these organizations and individuals tried to monopolize the field of prepaid medical care by refusing to deal with private agencies and by disciplining physicians who did deal with them. Much has been said and written on this subject in medical literature, and everyone was thoroughly confused about the validity of the case, the findings and the probable outcome. It has now been solved with the decision on September 28 by Federal Judge Claude McColloch, that the Oregon State Medical Society and the other defendants did not violate the Sherman anti-trust act.

The case was dismissed and the matter is settled.

In his decision Judge McColloch wrote, "I hold that the Oregon physicians service is not a conspiracy, but rather an entirely legal and legitimate effort by the profession to meet the demands of the times for broadened medical and hospital service, eliminating the evils of privately owned concerns as well as the element of private profit."

Little attention is paid to health, and it is often considered in the negative sense of absence of disease. It is challenging to current thought to point out that health and disease are not static entities but are phases of life. . . . Health, in a positive sense, consists in the capacity of the organism to maintain a balance in which it may be reasonably free of undue pain, discomfort, disability, or limitation of action including social capacity.—*John Romano, M.D., J.A.M.A., June 3, 1950.*

**a  
long  
and  
distinguished  
career  
in  
urography**



# NEO-IOPAX<sup>®</sup>

(brand of sodium iodomethamate)



An 18 year history of dependable roentgenograms obtained without harm to the patient distinguishes the career of NEO-IOPAX as a diagnostic urographic agent. Since 1932, *hundreds of thousands of doses of* NEO-IOPAX have been injected with virtual freedom from serious untoward reactions. No other urographic contrast medium has equalled the safety record of NEO-IOPAX. No agent, experience with which is limited to a relatively small number of patients, can be deemed to be as safe. Because the patient's life and welfare take precedence over all other considerations in diagnostic investigation of the urinary tract, urologists and roentgenologists will continue to rely—as always—on NEO-IOPAX.

Available as a stable, crystal-clear solution of disodium N-methyl-3, 5-diiodo-chelidamate in 10, 20 and 30 cc. ampuls of 50% concentration. NEO-IOPAX 75% concentration in 10 cc. ampuls, box of 5 ampuls; 20 cc. boxes of 1, 5 and 20 ampuls.

*Schering* CORPORATION • BLOOMFIELD, NEW JERSEY

NEO-IOPAX





---

## BLUE SHIELD

---

*Because of the emphasis placed recently by the American Medical Association on "voluntary health insurance" it may be interesting to physicians in Kansas to examine the point of view of a physician who has done much to forward a positive program of health care for the American people. The following are excerpts from an address by Paul R. Hawley, M.D., director of the American College of Surgeons.*

The public has served notice on us that it will have insurance against the cost of medical care. The only choice we have is that between government medicine and voluntary health insurance. It will be one or the other. However, it is by no means enough that we merely choose voluntary health insurance. We must make it work to the reasonable satisfaction of the consumer. Let's entertain no illusions upon this matter—we either make voluntary insurance work or we get government medicine.

What are the deficiencies—real or alleged—in voluntary health insurance which threaten its success? Without going into a lengthy discussion of the numerous small plans for the prepayment of the costs of medical care, we can assume that all of them fall into one or another of the two principal categories—commercial companies and non-profit plans. Each type has deficiencies peculiar to itself as well as sharing some deficiencies with the other.

When we speak of deficiencies, we must keep in mind the job that has to be done by voluntary health insurance if it is to be an effective bulwark against the socialization of medicine. The job is two-fold. The protection offered must be reasonably adequate, and, above all, every insurable person who wants this protection and can pay for it, must be able to get it. If voluntary health insurance fails to meet both of these requirements, it will fail as a protection against government medicine.

Commercial health insurance is deficient on three counts. Its administrative costs are too high. It is an exceptionally good policy which returns as much as 70 cents of the policyholder's dollar in benefits. Many commercial companies return as little as 50 or 60 cents, and some even less than that. The rest goes into administrative costs, agents' commissions, reserves, and dividends. Considering the benefits return, the cost of such insurance is too high for people of low income.

Another deficiency of commercial insurance is that it offers only indemnity payments rather than service benefits. I have no personal objection to indemnity insurance; but the vast majority of people prefer service benefits and, to these, commercial insurance is not satisfactory.

However, the most important deficiency of commercial health insurance is that it is not interested in covering a large segment of the population which must be covered to make voluntary health insurance effective. In fact, not only is it not interested, it will not consider it at present.

I do not offer this as a criticism. Commercial insurance is a business. The driving force of business is the profit motive. Business cannot long survive upon any other basis. Consequently, on the whole, commercial insurance is interested only in preferred risks. It will not knowingly accept substandard risks except with loaded premiums, and the loading of premiums prices it out of a large part of the market.

The non-profit plans, on the other hand, do not scale their rates in accordance with the risk. They have depended upon the law of averages. They are constantly extending their coverage to the groups that are less desirable from a business viewpoint. To do this, they must have a comparable proportion of preferred risks which will balance their losses in the substandard groups.

It is only the non-profit plans, then, which are trying to do the job that must be done if we are to defeat government medicine. I can see the point of those physicians who contend that we should leave insurance business to insurance companies and get the doctors out of it. I would support that view if the insurance companies could be trusted to do the job upon which our very survival depends; but I am certainly unwilling to put the future of medicine into the hands of agencies which, until the present time, have shown no interest greater than their own interest in making a profit. The medical profession must realize, and realize soon, that the commercial insurance carriers will not save us from the socialization of medical care. The public looks upon health insurance as a social movement and not as a commercial enterprise as is other insurance; and, in lieu of compulsory health insurance, the public, by and large, will accept voluntary health insurance only if it displays a feeling of social responsibility. If there were no other, this would be ample reason for the existence of Blue Cross and Blue Shield; and, if doctors know what is good for themselves, they will throw their full support behind these great plans.

---

### Alumni Association Elects

The Alumni Association of the University of Kansas School of Medicine elected officers at a meeting held in Kansas City during the meeting of the Kansas City Southwest Clinical Society. Dr. Harold L. Gainey, Kansas City, Missouri, was named president. Dr. Wendell Grosjean, Winfield, was elected vice president, and Dr. Mervin J. Rumold, Kansas City, Missouri, was chosen secretary-treasurer.



## *A Real American Breakfast*

That a nutritious breakfast providing generous amounts of high quality protein prevents late morning hypoglycemia has been amply demonstrated. As shown by Thorn and co-workers,<sup>1</sup> and later confirmed by Orent-Keiles,<sup>2</sup> "... breakfast high in protein and low in fat and carbohydrate was followed by an improved sense of well-being and no symptoms of hypoglycemia."

Meat for breakfast—ham, sausage, bacon, breakfast steaks—is an appetizing means of increasing the protein content of the morning meal. Its biologically complete protein contains all essential amino acids, and serves well in complementing less complete proteins from other sources. Furthermore, muscle meat is an outstanding source of B complex vitamins and of iron.



The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

(1) Thorn, G.W.; Quinby, J.T., and Marshall, C., Jr., *Ann. Int. Med.* 18:913 (June) 1943.

(2) Orent-Keiles, E., and Hallman, L. F., Circular No. 827, United States Department of Agriculture, Bureau of Human Nutrition and Home Economics, Agricultural Research Administration, Dec., 1949.

**A m e r i c a n   M e a t   I n s t i t u t e**  
Main Office, Chicago... Members Throughout the United States



---

## SERVICE NOTES

---

The president of the Kansas Medical Society submitted to Washington nominations of three physicians to serve as the Kansas Medical Advisory Committee to the Armed Forces. Selected by Dr. Croson were Lucien R. Pyle, M.D., Topeka, chairman, M. W. Hall, M.D., Wichita, and P. W. Morgan, M.D., Emporia. Confirmation has been received and this committee is currently working in an effort to coordinate the best interests of the armed forces and the civilian population with reference to medical care.

Also of interest to Kansas is the fact that General Howard Rusk, chairman of the National Advisory Committee, appointed Dr. Pyle as Kansas chairman of the Advisory Committee on Specialized Services. Other members serving with him are F. C. Beelman, M.D., Topeka, and Arthur Buff, D.D.S., Topeka. This committee is responsible for the procurement and assignment of not only medical personnel but of dentists, veterinarians, sanitary engineers, medical technicians, etc.

\* \* \*

From Washington it has been learned that on October 16 a total of 21,101 persons registered. Of this number 13,968 were physicians. It is known that some registered who would not have needed to at this time, but for practical purposes this makes available for the armed forces almost 14,000 doctors. Processing will have been completed by November 15 and shortly thereafter the first call will be issued for physical examinations. When that occurs it is anticipated that fewer reserve officers will be called to active duty. It may also serve to release some reserve officers currently on active duty.

Some time ago the Navy loaned 570 reserve officers to the Army. Next January these will be returned and will be ordered on duty with the Navy to replace older reserves with World War II service. It is promised that the more experienced reserves will be released on the basis of the amount of time spent in service during the last war.

The Army is requesting 922 men from Selective Service. They will replace the men currently loaned to the Army and 300 reserves who have been called into active service.

The Navy has advised that for the present applications for reserve commissions will be accepted from V-12 physicians, but A.S.T.P. trained physicians will not be accepted for Navy reserve commissions. The Army will accept applications for reserve commissions from A.S.T.P. trained men.

Physicians who registered under the draft may, therefore, still apply for commissions in the reserves.

If granted prior to the date the physician is ordered for induction by Selective Service, the draft process will be interrupted. No interruption of that program can be made, however, until a commission has been granted. Since it takes some weeks to complete an application, it is recommended that those physicians who contemplate applying for reserve commissions do so early.

---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the 15th of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

Mr. Oscar R. Ewing, Federal Security Administrator, has repeatedly emphasized his desire to have socialized medicine known as national health insurance. The medical profession has as repeatedly reminded the public that this is only an effort to avoid an objectionable term and that the program remains the same by whatever name it is called.

Mr. Ewing recently issued a statement declaring that he opposes socialized medicine and gives the reasons for his opposition. The physician reading this statement will immediately sense his effort to give meaning to his words that may support his stand. The Journal has italicized some words illustrating this technique and presents the quotation for whatever use the physician may care to make of it. The statement follows.

I am against any system whereby the government can tell a doctor *exactly* how he must treat a particular illness, what drugs he *can* or *cannot* use, how *much* time he must or must not spend on a patient. They have that kind of socialized medicine in Russia, and I don't want any part of it here.

I am against any system whereby *all* doctors work for the government and *must* treat the patients that the government sends them.

I am against any system whereby *all* patients—meaning the public—get their medical and hospital care paid for out of general taxes and *must* accept the treatment of the doctor that the government assigns to them.

---

Studies of the coincidence of pulmonary scarring or calcified nodules and histoplasmin skin sensitivity in tuberculin-negative persons have emphasized that lesions which in the past would have been interpreted as tuberculous in origin may be the result of an infection with histoplasma capsulatum or some other related organism.—*American Journal of Public Health*, April, 1950.

the  
quieting  
hand

—in preoperative apprehension...

postoperative restlessness...

insomnia...

epilepsy...

dysmenorrhea...

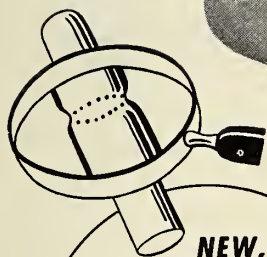
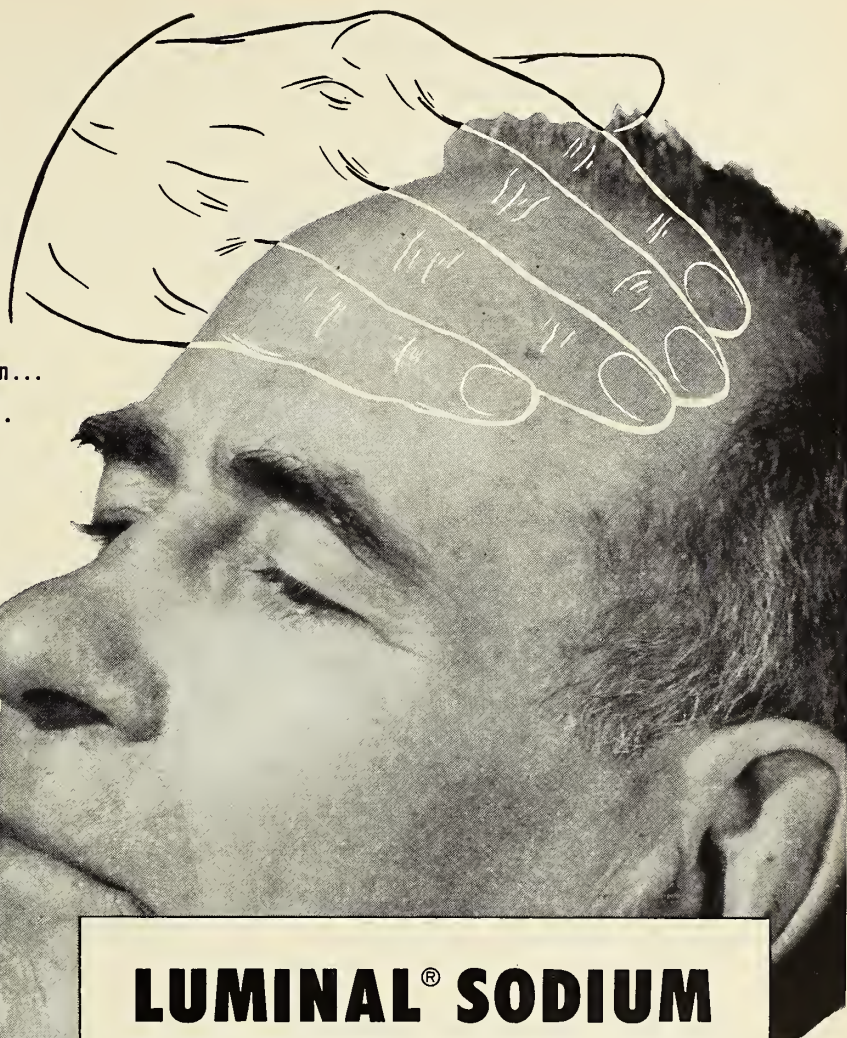
vomiting of pregnancy...

eclampsia...

hypertension...

pyloric spasm...

neuroses...



**NEW,  
EASILY OPENED  
SERRATED AMPUL**

—Luminal Sodium Powder is available in a new, constricted-neck ampul—serrated for easy opening. Only moderate pressure is required to make the file cut.

## LUMINAL® SODIUM

BRAND OF PHENOBARBITAL SODIUM

Sedative...Hypnotic...Antispasmodic

In conditions of excitement of the nervous system, as well as in certain spasmodic affections, Luminal Sodium acts as a soothing, quieting agent to tranquilize hyperexcitability or to curb convulsive paroxysms. Small doses have a pronounced sedative and antispasmodic action. Large doses are markedly hypnotic.

For oral use...tablets of 16 mg. ( $\frac{1}{4}$  grain), 32 mg. ( $\frac{1}{2}$  grain) and 0.1 Gm. ( $1\frac{1}{2}$  grains).

For parenteral use...solution in propylene glycol 0.32 Gm. (5 grains) in 2 cc. ampuls; powder 0.13 and 0.32 Gm. (2 and 5 grains) in ampuls.

*Winthrop-Stearns* INC.  
NEW YORK, N. Y. WINDSOR, ONT.

Luminal, trademark reg. U.S. & Canada



## ACTIVITIES OF MEMBERS

Dr. F. C. Beelman, secretary of the Kansas State Board of Health, has been named to the Committee on Cardiovascular Clinics of the American Heart Association.

\* \* \*

Dr. L. Lafe Bresette, Kansas City, has been named chairman of the Crusade for Freedom in Wyandotte County.

\* \* \*

Dr. Richard Howard, who is completing a postgraduate course in internal medicine at Massachusetts General Hospital, has announced that he will return to Kansas in January and will rejoin the Snyder-Jones Clinic in Winfield.

\* \* \*

Dr. Thomas L. Foster, Halstead, was principal speaker at the fall meeting of the Harper County Council of Clubs at Anthony, September 22. He spoke on mental institutions of Kansas and accomplishments of the past year in the field of mental health.

\* \* \*

Dr. M. W. Hall, Wichita, who has been staff physician at Booth Memorial Hospital, Wichita, since the institution was founded in 1925, was honored by the Salvation Army at an advisory board dinner last month, when it was announced that a new laboratory will be dedicated in his honor at the hospital.

\* \* \*

Dr. Claude C. Tucker, Wichita, is the author of a paper, "The Causes and Treatment of Pruritus Ani," which has been accepted for publication by the Archives of Surgery. The paper was presented before the Section on Gastroenterology and Proctology at the A.M.A. meeting in San Francisco in June.

\* \* \*

Dr. Mary Glassen, Phillipsburg, spoke before a meeting of Parent-Teacher Associations in Garden City September 11 on the subject of child health problems.

\* \* \*

The six physicians of Goodland, Doctors A. C. Gulick, M. J. Renner, M. E. Robinson, Elden J. Teeter, D. D. Vermillion and David A. Lasley, were the subject of a feature story in the Goodland News on October 12. The paper gave a short biography of each physician.

\* \* \*

Dr. John Wheeler Griffin, Jr., who has been on the surgical staff at Winter Hospital, Topeka, during the past year, is now associated with Dr. R.

Grover Schoonhoven in the practice of surgery in Manhattan. He is a graduate of Columbia University College of Physicians and Surgeons, interned at King's County Hospital in Brooklyn, and served in the Navy during the war.

\* \* \*

Dr. Edward Greenwood, consultant in medicine at Winter Hospital, Topeka, was keynote speaker at the first convention of the Regional Association of Rehabilitation Therapists at Winter Hospital, September 14.

\* \* \*

Dr. J. R. Nevitt has resumed practice in Iola after four weeks absence on military duty, assisting in processing reserve units into service.

\* \* \*

Dr. Norman H. Overholser gave an address on child health before the Jefferson School P.T.A. group at El Dorado October 5.

\* \* \*

Dr. Richard F. Conard, Baxter Springs, recently completed a postgraduate course in obstetrics at the Cook County Graduate School of Medicine.

\* \* \*

Dr. C. V. Black, Pratt, spoke on health, disease and medicine before the Pratt Mothers Club on October 20.

\* \* \*

Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, was named one of the ten outstanding young men of the nation for 1949 by the United States Junior Chamber of Commerce.

\* \* \*

Dr. H. L. Bogan, Baxter Springs, spoke to the Kiwanis Club in that city October 10 and discussed ACTH and cortisone and their effects.

\* \* \*

Dr. V. G. Henry of the Axtell Clinic, Newton, has returned to practice after six months in Boston studying anesthesiology at the Lahey Clinic.

\* \* \*

Dr. L. E. Peckenschneider discussed socialized medicine before the Halstead Lions Club at a recent meeting.

\* \* \*

Dr. E. W. Donald, Caldwell, announces that Dr. Dr. L. F. Kinnan, formerly of Medford, Oklahoma, is now associated with the Caldwell Clinic.

\* \* \*

Dr. A. E. Hiebert has been named chairman of a group of physicians who form the medical division of the Red Feather campaign in Wichita.

\* \* \*

Dr. Fred M. Tetzlaff, former director of admissions at the Menninger Clinic, Topeka, reported to the Army at Camp Chaffee, Arkansas, October 14.

# KANOX THERAPEUTIC OXYGEN



Oxygen Therapy Regulators  
and Equipment

Anesthetic and Resuscitating  
Gases

## KANSAS OXYGEN

Phone 6392

HUTCHINSON, KANSAS

Box 551

## THE Lattimore-Fink Laboratories

TOPEKA, KANSAS

J. L. Lattimore, A.B., M.D., *Director*  
A. A. Fink, M.D., *Pathologist*  
A. C. Keith, B.S., *Chemist*  
H. C. Ebendorf, M.T., *Serologist*  
L. A. Hull, A.B., *Bacteriologist*

**PATHOLOGY, SEROLOGY, CHEMISTRY, BACTERIOLOGY,  
HEMATOLOGY AND PARASITOLOGY**

*Containers furnished upon request.*

**OFFICES:**

**Topeka, Kan.**

**El Dorado, Kan.**

**Sedalia, Mo.**

**McAlester, Okla.**



He will be assigned to a mental hygiene consultation service unit.

\* \* \*

Dr. E. S. Edgerton, Wichita, has been named vice chairman of the Sedgwick County unit of the American Cancer Society.

\* \* \*

Dr. Jerome S. Menaker, Wichita, spoke at a meeting of the Wichita Town Club of Business and Professional Women on the subject of "Mental Health as it Pertains to Business Women," on September 19.

\* \* \*

Dr. LeRoy A. Calkins, chairman of the department of obstetrics and gynecology at the University of Kansas School of Medicine, has been named president-elect of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.

---

## COUNTY SOCIETIES

---

The Reno County Society entertained members of medical societies in surrounding counties at a dinner meeting at the Officers' Club, Hutchinson, September 14. Fifty-three physicians were present. Dr. Paul Schafer, of the University of Kansas Medical Center, presented a paper, "Splenomegaly and Portal Hypertension."

\* \* \*

Members of allied groups were guests of the Shawnee County Society at a meeting held at White Lakes Country Club, Topeka, October 2. One hundred fifty physicians, dentists and pharmacists were present at the dinner meeting.

\* \* \*

Dr. H. D. Palmer, Denver, spoke at a meeting of the Sedgwick County Society on October 10. He discussed "Malignancy in Infancy and Childhood."

\* \* \*

The Central Kansas Medical Society held its quarterly meeting at Russell September 21 with physicians from Ellis, Ellsworth and Russell Counties attending. Dr. George Miles spoke on "Surgery for Malignancy," and Dr. E. Gray Dimond discussed "Hypertension." Both speakers are from the University of Kansas Medical Center.

\* \* \*

Members of the Neosho County Society were invited to serve as an advisory board to the board of trustees of the new Neosho Memorial Hospital, Chanute, recently. They were specifically asked to formulate plans for the operation of the hospital and for the purchase of equipment.

\* \* \*

A meeting of the Marion County Society was held at Coons Restaurant, Marion, October 4. Dr. A. C.

Eitzen, Hillsboro, read a paper on his experience with the new drug ACTH.

\* \* \*

The Jefferson County Society and Auxiliary held a joint meeting at the home of Dr. and Mrs. R. R. Snook, McLouth, in September. A medical film was shown.

\* \* \*

The Cowley County Society entertained members of the Tri-County Society at a meeting at the Winfield Country Club, October 19. The afternoon program included a golf tournament and a skin clinic conducted by Dr. J. P. Berger, Wichita, at the State Training School Hospital. Following a dinner, a scientific program was presented by three physicians from the University of Kansas Medical Center, Dr. Sloan J. Wilson, Dr. Henry Denham, and Dr. Harold Grady. They discussed different phases of the use of radioactive material in medicine.

\* \* \*

The 24th annual golf tournament and skeet shoot of the Sedgwick County Society was held at Wichita September 22. At the banquet that evening Dr. H. Lee Barry was presented the trophy for golf, with Dr. E. S. Edgerton as runner-up. Dr. Clayton Scuka won the skeet trophy and Dr. Frederick Nyberg won second place in that event.

\* \* \*

The Crawford County Society met at Hotel Besse, Pittsburg, October 26, and entertained their wives at dinner. Dr. C. F. Kittle, of the University of Kansas Medical Center, was guest speaker and discussed "The Potentialities of Atomic Energy in Medicine."

\* \* \*

Members of the Saline County Society entertained the Golden Belt Medical Society at the Salina Country Club, October 12. The program was presented by two speakers from the University of Kansas Medical Center, Dr. Sloan Wilson, who spoke on "Recent Advancements in the Treatment of Blood Diseases," and Dr. Robert E. Bolinger, who discussed "Clinical Application of ACTH and Cortisone."

## DEATH NOTICES

George E. Seitz, M.D.

Dr. George E. Seitz, 71, an honorary member of the Saline County Medical Society, died in Salina September 14. He was graduated from the University Medical College of Kansas City in 1900, receiving his Kansas license in 1901. He practiced in Salina 41 years, and after his retirement seven years ago moved to Holyrood.



# BIRTCHE HYFREACATOR

Used by  
More Than  
**70,000**  
DOCTORS

... for the removal of skin growths, tonsil tags, cysts, small tumors, superfluous hair, and for other technics by electrodesiccation, fulguration, bi-active coagulation.

Now, completely redesigned the new HYFREACATOR provides more power and smoother control ... affording better cosmetic results and greater patient satisfaction. Doctors who have used this new unit say it provides for numerous new technics and is easier, quicker to use.

**\$4950 COMPLETE**

Send for descriptive brochure, "Symposium on Electrodesiccation and Bi-Active Coagulation" which explains the HYFREACATOR and how it works.

**THE BIRTCHE CORPORATION**  
5087 Huntington Drive Los Angeles 32, Calif.

To: The BIRTCHE Corp., Dept. KA  
5087 Huntington Dr., Los Angeles 32, Calif.

Please send me free booklet, "Symposium on Electrodesiccation and Bi-Active Coagulation."

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

## Daricraft Babies



More and more  
doctors are prescribing  
**Daricraft Homogenized  
Evaporated Milk**  
for babies ... and for  
convalescent diets

Always uniform in quality, safe, sterilized, high in food value and minerals. Contains 400 U. S. P. units Vitamin D per pint of Daricraft. Easily digested.



FOR CONVENIENCE  
ECONOMY QUALITY

**Daricraft**  
HOMOGENIZED  
EVAPORATED  
**MILK**



PRODUCERS CREAMERY CO., SPRINGFIELD, MO.



## THE KANSAS PRESS LOOKS AT MEDICINE

### Sacrificing Needed

At this time when the American people are being called upon to make sacrifices in order that full support may be given to the Korean war effort, many of the Washington planners are unwilling to sacrifice their pet schemes and theories.

It is perfectly clear that if we are to provide adequate financing for national defense which will include Korean operations and those expected to follow, cuts must be made elsewhere. It is a time to put aside grandiose "welfare state spending" and to buckle down to facing the realities of the situation.

In spite of this, most of the bureaucrats continue to press for programs which have no justification except in the minds of those who believe that they can be used effectively as political weapons.

Oscar Ewing, head of the sprawling Federal Security Agency, says it is his "duty" to lobby for a vast federal health program and other expansions of the social security field. He overlooks blandly the fact that he has the job of administering programs authorized by Congress, and that lobbying for programs which Congress opposes is outside his jurisdiction.

Ewing frequently castigates members of the medical profession for using their own private funds to fight socialized medicine. He implies that the doctors engaged in this effort are dishonest, and tries to indicate that there is something vicious about the fight of the medical profession to protect the country against the socialization of medicine. Yet Ewing himself, at the expense of American taxpayers, apparently wants the public to believe that it is perfectly proper for him to lobby on the other side of the question.

As a matter of fact, Ewing is wasting money, for there is no chance whatever of socialized medicine making any progress in Congress at this time. It is the same but which now stand revealed for what with numerous other "welfare state" projects which might succeed in normal times, they really are—expensive, unjustified moves which would take us down the road of socialism and eventually bring us the same troubles which now beset Britain.

If there were a grassroots demand for such things as the socialized medicine scheme and the Brannan farm plan it might be different, for the American people certainly have the right to what they want, irrespective of whether they are wise in reaching decisions. But the demand for welfare spending comes from the bureaucrats and other politicians attempting to force these things on the country....—*Topeka Capital, August 16, 1950.*

### Who Smears Who?

The tendency in "fair deal" ranks to attempt to shut off legitimate avenues of publicity for opponents continues. The Buchanan committee during the last session branded circulators of publicity upholding old-fashioned Americanism as "Lobbyists."

Now we find John D. Dingell, a Michigan congressman, circulating a speech he had printed in the appendix of the Congressional Record. This is reprinted as from the Congressional Record, but carries a large headline in big type never used in the Record, which reads, "*Help Fight Medical Lobby \$20,000,000 Smear Campaign.*" The headline never appeared in the Record, but many people who receive the reprint will not know that.

Actually, according to the president of the American Medical Association, the association is spending \$1,110,000 advertising in newspapers, magazines and radio.

"We have felt," said the AMA president—himself a lifelong Democrat—"that placing medicine's story as the doctors see it, in the public press, at the doctors' own expense, is in the finest American tradition." He asked congressmen if they agreed with Dingell's charge that such use of advertising is an "Insidious tactic to corrupt the public mind, or a proper exercise of free speech."

There can be no doubt of the answer from all who believe in the rights guaranteed to Americans by their constitution.

"*Eternal Vigilance is the Price of Liberty.*"—*Independence Reporter, October 11, 1950.*

\* \* \*

### The Doctors Pitch In

In Wednesday's News-Herald appeared a large advertisement sponsored by the American Medical association. The same advertisement was printed in every other newspaper in the country. In this advertisement the nation's doctors thanked various important organizations which had helped them in staving off compulsory health insurance thus far and advanced their reasons why "socialized medicine" should continue to be warded off.

Whether one favors compulsory health insurance or not, the M.D.s are to be congratulated for their new enterprise. Traditionally their profession has adopted a Wilsonian "too proud to fight" attitude, while almost every other social, professional, and economic group has been in there fighting to get out of the government the things it wanted.

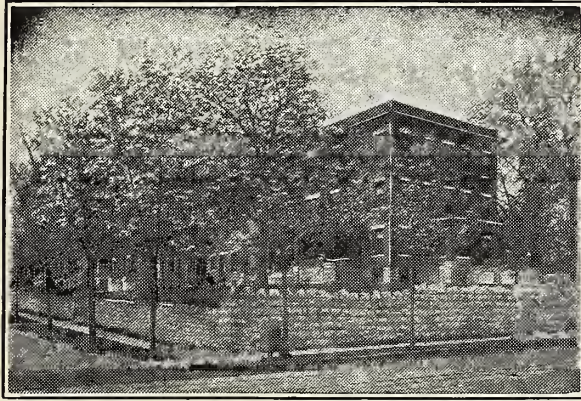
There is undoubted merit in the medical attitude of letting the practitioner's work speak for itself. But the doctors, both individually and organized, have carried their ethical concept to the point where it has not aided public health and it certainly has not enhanced the public's regard of the profession.

# THE MAJOR CLINIC ASSOCIATION

3100 EUCLID AVENUE

KANSAS CITY, MISSOURI

A Well  
Equipped  
Institution  
for the  
Nervous and  
Mental  
Diseases and  
Alcohol  
Drug and  
Tobacco  
Addictions



Beautiful  
Location  
Large,  
Well Shaded  
Grounds  
Spacious  
Porches,  
All Modern  
Methods for  
Restoring  
Patients to a  
Normal  
Condition

Elderly People Accepted — Special Rates

HERMON S. MAJOR, M.D.  
*Medical Director*

HERMON S. MAJOR, JR.  
*Business Manager*

# dorestro

ESTROGENIC SUBSTANCES  
(WATER-INSOLUBLE)

the name which signifies

- **CONTROL**
- **UNIFORMITY**
- **MANUFACTURING  
EXCELLENCE**



COUNCIL ACCEPTED  
**Dorsey**

THE SMITH-DORSEY COMPANY • LINCOLN, NEBRASKA  
Branches at Los Angeles and Dallas  
MANUFACTURERS OF FINE PHARMACEUTICALS SINCE 1908

COMPLIANCE with the highest scientific standards, plus years of use by thousands of physicians, have established beyond doubt the dependability of *dorestro* Estrogenic Substances, Water-Insoluble. Supplied in 1 cc. ampoules and 10 cc. vials in aqueous suspension or persic oil. Units from 5,000 to 20,000 per cc. in oil; up to 50,000 per cc. in aqueous suspension.



It is beneficial for everyone to have the Docs, for once, pitching frankly and openly in to battle for something in which they intensely believe.—*Hutchinson News-Herald and Chanute Tribune, October 13, 1950.*

\* \* \*

#### One-Armed Medicine

A determined effort is being made by the Administration to establish a compulsory Federal medical service. The fact that countries already "blessed" with such monopolies lack the medical advantages of the United States, from the standpoint of progress, has not deterred those who favor compulsory socialization of the medical profession.

A sidelight on the issue has just been published by the Association of American Physicians and Surgeons. The organization's "News Letter" contains a note written by Dr. William C. Black, of San Diego, California, formerly president of AAPS, on his arrival in New York from a several months' European tour and study of socialism. He says he "stayed in Kenilworth, England, for a couple of days . . . Found out the proprietor of the hotel was an anesthetist—specialist—and had quit a year ago, not because of pay, but because under the regulations of the National Service Act he was not permitted the freedom of judgment and action essential to the best interests of the patient . . . Rather than do sub-standard work he just quit and now makes a living from the hotel . . . He cares for the chickens, goats, cows and garden and his wife keeps the hotel, cooks and irons."

Dr. Black wrote that the physician-hotel proprietor told him: "This Act had the same effect on me, as a physician, as though I had lost an arm or gone blind or developed some other physical disability which would make it impossible for me to do my work properly.—*Parsons News, October 12, 1950.*

and tabular aids. Accessibility of information in a hurry is insured by good organization and index features. This is an invaluable book for the medical student, interne, resident, or practicing physician. It may provide needed information rapidly and save more time-consuming search of larger volumes.—*P.G.K.*

\* \* \*

*The National Formulary, Ninth Edition. By Committee on National Formulary of the American Pharmaceutical Association. Published by Mack Publishing Company, Easton, Pennsylvania. 887 pages. Price \$7.50.*

The ninth revision of the National Formulary (N.F. IX) is organized along the same general lines as the 14th revision of the United States Pharmacopeia (U.S.P. XIV), and completes the work of bringing these two official books up to date. Inclusion of drugs and preparations in the National Formulary has been based on usage as well as on therapeutic value. In this way official standards have been established for drugs that are not in the Pharmacopeia.

A total of 155 new titles have been admitted to the N.F. IX; 162 items that were in the old N.F. have been omitted, 35 of these having been elevated to the U.S.P. XIV. Of the new admissions, 113 are from the U.S.P. XIII, and 42 are entirely new to the official list.

New features in the N.F. IX are specifications for the disintegration time of tablets, and weight variation standards for tablets and dry-filled ampules. The general chapter on injections has been revised. The term "injection" has been used instead of "ampule" to describe sterile solutions for injection. This brings the N.F. in line with the terminology that was adopted by the U.S.P. XIII.

In the current revision, as in the U.S.P. XIV, the Latin titles have been retained, but are preceded by the official English titles. Official abbreviations are no longer given in either of the official books, an omission that does not meet the approval of this reviewer.

The Formulary and the Pharmacopeia render a valuable public service by establishing and promulgating official standards for drugs, as well as legal standards for the Federal Food and Drug Administration in its enforcement program. Both books are remarkably up to date in this era of rapid change in drug therapy, and a provision for interim supplements promises to keep them fully abreast of current progress.

It is certainly the duty of every physician to become familiar with the new Pharmacopeia and National Formulary. Most practicing physicians will want to acquire the inexpensive pocket-sized "Epi-

---

## BOOK REVIEWS

---

*Physician's Handbook (Sixth Edition).* By Marcus A. Krupp, Norman J. Sweet, Ernest Jawetz, and Charles D. Armstrong, University Medical Publishers, Palo Alto, California. 380 pages. Price \$2.50.

The sixth edition of the Physician's Handbook is greatly revised from previous editions. A new group of authors has assumed responsibility for compilation and organization of the large amount of basic knowledge included in its pages. The book has been expanded considerably in content without sacrifice of pocketbook size. Nearly the entire gamut of basic procedures, techniques, and information of medicine is included. Presentation is concise and well organized with good use of graph, illustrative

**YOUR CUE FOR INFANT FEEDING**

**QUALITY  
ECONOMY  
UNIFORMITY  
CONVENIENCE**

**NORMAL DILUTION**  
**Dextrogen® + Water = Formula**

1 fl. oz. (50 Cals.)	1½ fl. ozs.	2½ fl. ozs. (20 Cal. per fl. oz.)
-------------------------	-------------	---

**Dextrogen**  
 REG. U.S. PAT. OFF.  
**NESTLÉ**  
 COWS' MILK MODIFIED  
 WITH  
 DEXTRINS, MALTOSE & DEXTROSE  
 AND WITH THE ADDITION OF A SMALL AMOUNT OF  
 DISODIUM PHOSPHATE AND IRON SACCHARATE

**EVAPORATED** **HOMOGENIZED** **STERILIZED**

NET WEIGHT 14½ OUNCES EQUIVALENT TO 12.8 FLUID OUNCES  
 PREPARED BY  
 THE NESTLÉ COMPANY, INC., NEW YORK, U.S.A.

ADVERTISED TO THE MEDICAL PROFESSION ONLY.

**Pure..**  
**Wholesome..**  
**Refreshing**

Safeguarded constantly by scientific tests, Coca-Cola is famous for its purity and wholesomeness. It's famous, too, for the thrill of its taste and for the happy after-sense of complete refreshment it always brings. Get a Coca-Cola, and get the feel of refreshment.





tome of the United States Pharmacopeia and National Formulary" which should be issued soon by the Council of Pharmacy and Chemistry of the American Medical Association. A thorough knowledge and a more extensive use of official drugs and preparations will do much to curb the expensive and therapeutically indefensible overemphasis on proprietary specialty items.—J.D.R.

\* \* \*

*Sir William Osler Aphorisms. Collected by Robert Bennett Bean, edited by William Bennett Bean. Published by Henry Schuman, Inc., New York. 159 pages. Price \$2.50.*

This small pocket-sized volume continues to expand the justifiably great legend of Sir William Osler. It is clearly a labor of love and the material provides one further insight into the mind and thoughts of the great humanist-physician.

Contained in this volume are a large number of aphorisms and wise and pertinent sayings, which permit us to measure the breadth of Osler's interests and the widely-flung ramparts of his knowledge.

In these days when so many of us need to balance our professional and scientific exertions with a philosophy of life, this small volume, which fits equally well in the pocket of one's coat or on a bedside table, is enthusiastically recommended as a member of one's own library or as an entirely appropriate gift for a professional friend.—F.D.M.

\* \* \*

*Immortal Magyar: Semmelweis, Conqueror of Childbed Fever. By Frank G. Slaughter. Published by Henry Schuman, Inc., New York. 211 pages, five illustrations. Price \$3.50.*

A short story (reading time, three hours), written for the general public, of the life of Semmelweis. The book recounts his investigations of the cause of childbed fever and his recognition of the value of antisepsis for its prevention. Like many others, before and since, Semmelweis failed in his struggle for recognition, partly as a result of the politics of his time, as well as the shortsightedness of his contemporaries. Vindication was achieved after his death through the work of others, principally Pasteur.

An entertaining book for those who like biographical sketches of important men of medical history.—R.L.N.

\* \* \*

*History and Trends of Professional Nursing. By Deborah MacLurg Jensen. Published by C. V. Mosby Company, St. Louis. 365 pages, 61 illustrations. Price \$3.25.*

In this second edition the author has rearranged the content and has added the main trends in nursing since World War II. First the medical, the physical, and the social and economic backgrounds

against which professional nursing has developed are discussed. Then the author touches briefly on the main events in the development of modern nursing from the Nightingale period to the present.—S.P.

\* \* \*

*The Physician Examines the Bible. By C. Rainer Smith. Published by the Philosophical Library, New York. 394 pages. Price \$4.25.*

The author, who was formerly a specialist in pathology and clinical laboratory science, is now a physician in general practice. His hobby has been the study of the Bible. In his book, "The Physician Examines the Bible," Doctor Smith attempts to answer questions in regard to the Bible and its relation to medical science. Old and New Testaments and Apocrypha are presented and compared with present day practices.

Various chapters cover the following subjects: Medical Subjects in the Old Testament; Medical Notes on the Apocrypha; Alcoholic Liquors and the Bible; Can Faith Cure Disease; New Testament Medical References; The Scriptures in the Atomic Age; and the Temple of the Body. A medical concordance for the Apocrypha, the Old Testament and the New Testament are given at the end of the book.

This is not a book that one will sit down and read straight through. Rather it will be used more as a reference book if one is interested in looking up specific medical subjects or references in the Bible. The whole book is in need of some editing.—E.V.T.

\* \* \*

*Practical Gynecology. By Walter J. Reich and Mitchell J. Nechtow. Published by J. B. Lippincott Company, Philadelphia. 426 pages, 187 illustrations. Price \$10.*

This easily read volume will prove to be popular with all practitioners of medicine who are interested in diseases peculiar to the female. It may well prove to fill the recognized need for a simple text which deals entirely with the office practice aspect of gynecology.

The book has grown from the authors' experiences in conducting classes at the Cook County Graduate School of Medicine and in the gynecologic outpatient clinics of the Cook County Hospital. It has, therefore, been written with the needs of the general practitioner in mind but will prove useful to the student, interne and resident as well.

The psychosomatics of gynecology are discussed along with the problems of early detection of malignancy, gynecologic endocrinology, organic and functional disorders of menstruation. Inflammatory lesions and infections, traumatic lesions, neoplasms and other common gynecologic complaints receive attention as well as the problems of infertility, and

## Deformity Appliances of Quality

Orthopedic and Surgical Appliances  
Artificial Limbs

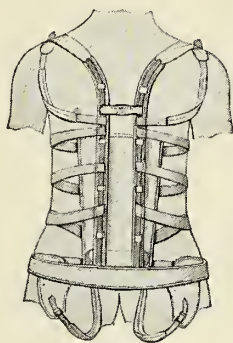
Trusses

Abdominal  
Supports

Elastic  
Hosiery

Foot  
Supports

Surgical  
Corsets



Taylor Back Brace  
Made to Order  
In Our Own Factory

**P. W. HANICKE MFG. CO.**

1009 McGee St.

Victor 4750

KANSAS CITY, MO.

**THE  
MEDICAL PROTECTIVE  
COMPANY**  
FORT WAYNE, INDIANA

*Professional Protection  
Exclusively  
since 1899*

TOPEKA Office:

J. E. McCurdy, Rep.

1160 College Avenue,

Telephone 2-3027



## Woodcroft Hospital—Pueblo, Colorado

A private hospital for the scientific treatment of neuro-psychiatric disorders, including alcoholism and drug addiction. Beautiful landscaping and home-like surroundings afford a restful atmosphere. Accommodations vary from single rooms with or without bath to rooms en suite, allowing for segregation of guests.

Detailed information furnished on request.

Karl J. Waggener, M.D.

Wendell T. Wingett, M.D.



the urinary and gastro-intestinal tracts in relationship to gynecology. The colored plates and diagnostic charts are of particular interest.—*T.W.C.*

\* \* \*

*A Textbook of X-ray Diagnosis. Second Edition, Volume III. Edited by Cochran Shanks and Peter Kerley. Published by W. B. Saunders Company, Philadelphia. 830 pages, 694 illustrations. Price \$18.*

This volume is one of a set of four textbooks of x-ray diagnosis by British authors. The material is organized in six major parts. Part One is concerned with the diagnostic roentgenology of the alimentary tract exclusive of the biliary tract. The latter is discussed in Part Two. Part Three is the section on the abdomen to include material on the liver, spleen, adrenals and pancreas. In Part Four material on obstetrical radiology is presented, while Part Five is devoted to gynecological radiology. Part Six concerns the urinary tract.

The organization of the book is generally satisfactory, and a wealth of factual material is presented in readable form. As is true with many textbooks, however, the answers to specific questions which arise may often be lacking. Much good radiographic illustrative material is presented, although the reproductions are not always as clear as could be desired.

Briefly stated, the book is interesting, well organized, neatly printed and illustrated, and substantially bound. It is deserving of attention as a reliable text and reference work.—*H.H.D.*

---

## ABSTRACTS FROM CURRENT LITERATURE

---

### Identification of Regional Lymph Nodes

*Identification of Regional Lymph Nodes by Means of a Vital Staining Dye During Surgery of Gastric Cancer. By Joseph Weinberg and E. M. Greaney, Surg., Gyn. and Obs., 90, 561-567, May, 1950.*

The authors describe a technic for staining regional lymph nodes when doing gastric surgery for cancer. Four or five cc. of a two per cent solution of pontamine sky blue dye are injected into the muscularis of the stomach wall with a fine needle, at intervals along the lesser and greater curvatures. Within 10 to 15 minutes after the injections, regional lymph nodes, if normal, have received the stain. Cancer tissue within the lymph nodes does not stain. The authors provide color photographs of a normal node and of the nodes containing cancer and staining only partially.

Numerous lymphatic anastomoses within the stomach wall make it necessary to do a total gastrectomy, along with removal of all adjacent nodes, if cancer is to be extirpated. Staining technic fa-

cilitates this part of the procedure. The dye is said to be non-toxic.

It would appear that this staining technic may be useful in many problems of lymphatic distribution.—*T.P.B.*

\* \* \*

### Subacute Bacterial Endocarditis

*Revised Criteria for Diagnosis and Treatment of Subacute Bacterial Endocarditis. By Charles K. Friedberg, Med. Clin. N.A., 760-783, May 1950.*

The author discusses progress made in the treatment of subacute bacterial endocarditis, which has been transformed from an almost universally fatal disease to one with a favorable outlook for recovery since the discovery of the antibiotics, particularly penicillin. Sulfonamides are credited to a recovery rate of five to 10 per cent by the author.

Several series treated by other authors are reviewed with reference to recovery rates which vary from 75 to 85 per cent. A series of 131 reported by six groups of authors resulted in 81.7 per cent cures.

In 100 unselected cases at Mt. Sinai Hospital, New York City, since the use of penicillin, there was a recovery rate of 73 per cent.

The fatal cases in all reported series fall into one of five categories: (1) those fatal despite the isolation of penicillin sensitive causative organisms, (2) cases fatal despite bacteriological cure, (3) those due to resistance of the causative organism, (4) cases fatal due to errors in diagnosis or delay in treatment on account of negative blood cultures, and (5) undiagnosed cases. Case reports are cited under each of these groups with discussion.

Strict diagnostic criteria formulated by various research groups which evaluate therapy are listed: (1) persistent fever, (2) valvular or congenital cardiac lesion or arteriovenous aneurysm, as indicated by organic murmurs, bruits and associated phenomena, (3) embolic and vascular lesions, notably emboli of major arteries, white centered petechia or Osler nodes, (4) positive blood culture.

Delay in waiting for all of these diagnostic criteria is sometimes responsible for failures to cure.

The dosage and administration of antibiotics are discussed, particularly with reference to the degree of sensitivity of the organism to penicillin. The doses varied from 600,000 to 36,000,000 units daily.

The choice and dosage of other antibiotics are discussed. The author recommends that the diagnosis be made whenever a patient with a significant cardiac murmur experiences fever for more than one week. He suggests that blood cultures be taken the first 48 hours and that treatment be instituted before the occurrence of embolic and vascular lesions.—*C.C.U.*

# THE JOURNAL of the KANSAS MEDICAL SOCIETY

*Owned and Published by The Kansas Medical Society*

Volume LI

DECEMBER, 1950

No. 12

## Coagulability of Blood After Operation

J. L. Morgan, M.D.

Emporia, Kansas

The troublesome postoperative complications of thrombosis and embolism have presented a challenge since Strauch<sup>51</sup> first recorded three cases in the literature in 1894. Much has been done to clarify the pathogenesis of these conditions, yet many aspects of their causation remain in doubt. The factors which have been indicated as being responsible for these complications<sup>52</sup> are: 1. Slowing of the blood stream. 2. Injury of the vessel walls. 3. An increase in the coagulability of the circulating blood.

From a review of the literature it would appear that there may be a change in the coagulability of the circulating blood after operation, but coagulation tests per se have generally been considered too insensitive to detect this change.

Malpighi in 1666 first described the clotting process of blood in vitro<sup>3</sup> and the coagulation test eventually became a recognized and frequently used laboratory procedure, but in recent years the coagulation test as done on whole blood has been overshadowed by more specific tests for the individual components of the blood involved in the clotting process. In reviewing the results of tests for coagulability, it is important to differentiate whether the tests were conducted on patients before thrombosis occurred or whether they were done after a thrombotic episode.

### A. Coagulation Tests on Whole Blood and Plasma

In general, the Lee-White<sup>25</sup> method of testing venous blood in test tubes, and some modification of the capillary tube technic of Wright<sup>57</sup> have been the two most widely used coagulation tests. However, there has been no generally accepted technic as witnessed by a report as early as 1911<sup>8</sup> which listed 31 coagulation tests then in use. Not only have there been many methods in use, but there has been a variation in the technic used among different investigators using the same test. Coagulation studies in the postoperative period have generally been analyzed to determine whether there is an increased coagulation of the blood in all patients after operation, or only in those subsequently developing

thromboses. These coagulation studies can best be surveyed under three headings:

1. Those methods using whole venous blood.
2. Those methods using capillary blood.
3. Those methods using plasma.

1. Those methods using whole venous blood:

Allen<sup>1</sup> and Shapiro, Sherwin, and Gordimer<sup>46</sup> and many others<sup>33,48</sup> found no significant change in the coagulation time of venous blood during the postoperative period as measured in glass tubes by the Lee-White method and no change was noted in patients who developed postoperative thrombophlebitis.

Margulies and Barker,<sup>30</sup> using silicone coated tubes and the Lee-White technic, studied 16 patients who had acute thrombophlebitis. Eight of these patients had coagulation times lower than any which they observed in normal subjects. Three patients with pulmonary embolism were studied and two of these patients had coagulation times well below normal, and the third patient had coagulation times within the range of normal. All of these patients were tested after the disease had made its presence known.

Morgan, Barker, and Roth,<sup>31</sup> using silicone coated tubes and the Barker coagulochronometer, studied the clotting time of venous blood of 25 patients preoperatively and eight days postoperatively. No uniform changes were noted in the coagulation times of these patients after operation. One patient died of a massive pulmonary embolus on the seventh postoperative day and no change was noted in the coagulation time of the blood of this patient.

Bergquist,<sup>6</sup> using a glass slide method, found the coagulation time of venous blood was short for a period of hours before the onset of vascular thrombosis, but he did not find a shortening of coagulation time in all patients after operation.

2. Those methods using capillary blood:

Allen<sup>1</sup> and Potts and Pearl<sup>41</sup> found no significant change in the coagulation time during the postoperative period as measured by the capillary tube technic, and the latter investigators found no change



in one patient who later developed thrombophlebitis.

Starup<sup>50</sup> in 1942 reported 4,000 determinations of the coagulation time using a capillary tube technic. He found the coagulation time decreased in practically all patients during anesthesia, and postoperatively the coagulation time reached a normal level from one hour to four days after the operation and remained there. He found no correlation between the capillary coagulation time and the empiric risk of thrombosis.

Dawborn, Earlam and Evans<sup>13</sup> found the capillary coagulation time decreased to about 85 per cent of its preoperative value by the sixth postoperative day in all patients, the coagulability reaching its maximum decrease by the tenth postoperative day.

Cummine<sup>10,11</sup> found that if the capillary coagulation time fell to four minutes and remained there, thrombosis was a possibility and all of the postoperative thromboses he found (five in number) had this finding.

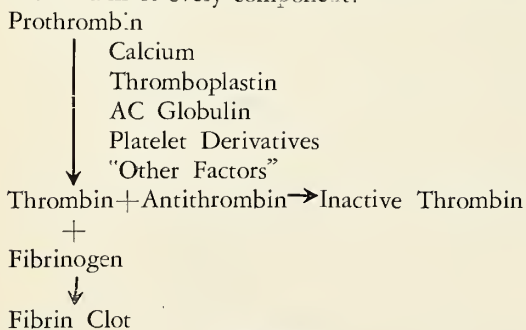
Hirschboeck<sup>21</sup> found the "coagulation-retraction time" of a drop of capillary blood suspended in castor oil was shortened in one-third of patients postoperatively and was particularly short in one patient who developed postoperative pulmonary embolism.

### 3. Those methods using plasma:

Bancroft, Stanley-Brown and Quick<sup>4</sup> in 1935 found that an acceleration of the plasma clotting time postoperatively was indicative of a clotting tendency. Nygaard<sup>34</sup> likewise found that an increase in the plasma coagulability preceded the development of thromboses.

### B. Tests of Individual Factors in the Clotting Mechanism

Most of the factors known to participate in the coagulation process have been singled out by careful investigators as being altered postoperatively, or at least altered in those patients who have postoperative thromboses. Picturing the coagulation process in the light of our present knowledge as Seegers<sup>44</sup> has recently done, it is possible to place blame on almost every component:



Prothrombin

The interpretation of the results of tests for prothrombin activity involves an evaluation of the

method used. The one-stage method and the two-stage method, both intending to measure prothrombin activity, have certain dissimilarities in results obtained and interpretation of these results. Seegers<sup>44</sup> and others<sup>38</sup> feel that the two-stage procedure is a more quantitative measure of prothrombin while the one-stage procedure measures a variety of factors. The use of dilute plasma rather than whole plasma in determining prothrombin time has been advocated to more accurately measure prothrombin activity, since the dilution supposedly renders anti-thrombins and anti-thromboplastins ineffectual.<sup>38</sup> Some recent doubt has been cast on the necessity for using dilute plasma, however.<sup>18</sup>

Mahoney and Sandrock<sup>29</sup> found that the prothrombin activity, as measured by the Quick method using whole plasma, rose rather suddenly on the second or third postoperative day in those patients who later developed thromboses, although in their group there were several false positives in younger patients. In normal patients postoperatively, these same investigators found the prothrombin activity decreased for the first three days, returning to normal on the sixth postoperative day.

Shapiro<sup>45</sup> and Shapiro, Sherwin and Gordimer<sup>46</sup> using dilute plasma and the one-stage technic, found that prothrombin activity was increased in most cases of thrombosis or pulmonary infarction after the episode had occurred. Brambel and Loker,<sup>7</sup> using a similar method, found an increased prothrombin activity in postoperative patients in general, the test returning to normal by the tenth postoperative day. Tuft and Rosenfeld,<sup>53</sup> likewise employing dilute plasma in the Quick one-stage test, felt that an acceleration in the dilute prothrombin reaction was not suggestive of a tendency toward the occurrence of thromboses.

Brambel and Loker,<sup>7</sup> using dilute plasma in the Quick one-stage method, found an increased prothrombin activity in various thrombosing conditions while undilute plasma did not reflect this change. Hurn, Barker and Mann<sup>22</sup> in a study of patients with clinically established intravascular thrombosis or embolism found subnormal prothrombin levels as determined by the Quick method employing both dilute and undilute plasma. These investigators felt that dilute plasma offered little information not furnished by the use of whole plasma. Loewe, Lasser and Morrison<sup>28</sup> did the one-stage prothrombin test on both dilute and whole plasma and felt that these tests, along with a barrage of other tests, were inconsistent in the presence of thromboembolic disease.

Hurn, Barker and Mann<sup>22</sup> in their study of patients with clinically established thrombosis or embolism found the values for the two-stage technic to fall outside the normal range—there being both

high and low values, but the average of these fell almost within the range of normal.

Judging by these reports it is safe to say that there is no sharp accord as to the method of choice in determining prothrombin activity, nor is there any general agreement as to the changes in prothrombin activity either before or after thrombosis occurs.

#### Calcium

Calcium, to my knowledge, has escaped unblamed.

#### Thromboplastin

Several investigators have noted that a larger dose of heparin than usual is rendered inactive postoperatively both with *in vivo*<sup>9,14</sup> and *in vitro*<sup>56</sup> tests. If there is an increased tolerance to heparin, and the deTakats *in vivo* test<sup>14</sup> and the Waugh-Ruddick<sup>56</sup> *in vitro* test would indicate that there is, this has been felt by some to indicate an increase in thromboplastin.<sup>15,56</sup> Hagedorn and Barker<sup>19</sup> performed both *in vivo* and *in vitro* heparin tolerance tests on 19 patients who had established thromboses and they found the results of the two tests were closely correlated. In 12 of the 19 patients they studied, there was an increased tolerance to heparin. Rosenbaum<sup>43</sup> using an *in vitro* heparin tolerance test employing the Barker coagulochronometer and a specially designed syringe, measured the *in vitro* heparin tolerance of 19 patients who had already experienced thrombophlebitis or pulmonary embolism, and by this method 52 per cent of the patients were found to have an increased tolerance to heparin. Tuft and Rosenfeld<sup>54</sup> using both the *in vivo* and *in vitro* test, found no case of thromboembolic disease in their series who did not have an increased tolerance to heparin.

#### Accelerator Globulin

Accelerator globulin<sup>44</sup> (or the Factor V of Owren,<sup>40</sup> or the labile Factor of Quick,<sup>42</sup> i.e. prothrombin A) because of its recent isolation is difficult to evaluate although, as previously mentioned, it is measured in the one-stage prothrombin test along with other factors and may be participating in the changes previously attributed only to prothrombin.

#### Platelet Derivatives

The number of platelets has been found increased in postoperative patients in general<sup>13,41,46,58,59</sup> and the adhesiveness of these platelets has been found to be increased.<sup>58,59</sup> It is interesting to note that the platelets are now felt by several investigators to furnish a material which is more like Accelerator Globulin than any other and that they furnish only a small amount of thromboplastin.<sup>44</sup>

#### Fibrinogen B

"Fibrinogen B," an intermediate substance in the conversion of fibrinogen to fibrin, was described by Cummine and Lyons<sup>12</sup> and its presence in plasma

was felt to be abnormal. They correlated its appearance in plasma with tissue necrosis and intravascular thrombosis. Apparently platelet fragility was increased in the presence of Fibrinogen B. Wright<sup>59</sup> found Fibrinogen B increased in all patients postoperatively and rarely present in the blood of normal individuals. Vorhees and Pulaski<sup>55</sup> studied the Fibrinogen B reaction in 48 hospitalized patients over a period of six months and they felt that the test was positive whenever tissue necrosis was present, but they found no specific response in cases of intravascular thrombosis. In this latter series 12 patients developed deep thrombophlebitis but only one had a positive test for Fibrinogen B. Further doubt as to the specificity of this test has been cast by Dunn, Jackson and Lyons<sup>16</sup> who found the Fibrinogen B value increased in pyogenic infections and congestive heart failure.

#### Antithrombin

Antithrombin had been felt to be insignificant postoperatively by Nielson<sup>32</sup> and Bancroft,<sup>5</sup> but a new technic developed by Ochsner and Kay has been found to show a low antithrombin level in patients subsequently developing phlebothrombosis.<sup>35,24</sup> One out of each four having a low antithrombin level by their technic subsequently developed phlebothrombosis.<sup>24</sup>

#### Discussion

The present-day concept of the pathogenesis of postoperative thrombosis and embolism is controversial.

Ochsner and DeBakey<sup>36,37</sup> have suggested that two different mechanisms are concerned. One they term thrombophlebitis, indicating an inflammatory reaction of the vein wall with a firmly attached thrombus, unlikely to detach and form emboli; although secondary necrosis of the thrombus may result in the formation of a soft "red clot" proximal to the thrombus with resultant embolic showers. They designate a second condition as phlebothrombosis, by which they imply a soft "loose clot" originating as a result of changes in the constituents or the viscosity of the blood, and not associated with inflammation. It has been suggested<sup>20</sup> that thrombophlebitis is a result of damage of the endothelium and phlebothrombosis is due to an increase in the coagulability of the blood with circulatory stasis serving as the precipitating factor.

Lister<sup>27</sup> felt, long ago, from his experiments on the ligated jugular vein of a horse that thrombosis would not appear until endothelial damage occurred. DeTakats<sup>15</sup> likewise believed that stasis alone is not sufficient to produce thrombosis without accompanying endothelial damage and cites as illustration that stasis may persist in an auricle of the heart for many years without thrombus formation.

Slowing of the circulation in the postoperative



period has been clearly demonstrated in humans by phlebography fluorescein,<sup>52</sup> sodium cyanide<sup>47</sup> and radio active sodium tests, respectively.<sup>59</sup> O'Neill,<sup>39</sup> using an isolated section of a dog's vein, found that it was difficult to produce thrombosis by damaging the endothelium without also slowing the circulation. Several investigators<sup>26,23,17</sup> consider venous stasis postoperatively to be the most important item favoring spontaneous thrombosis.

Much stress has been placed on changes in the coagulability of the blood postoperatively to favor thrombosis. This emphasis does not go unchallenged. Spitzer, and co-workers,<sup>49</sup> for example, have concluded that hyper-coagulability in itself is certainly not necessary for thrombosis and they cite the fact that there is a striking increase in the incidence of pulmonary emboli in patients over 70 years of age, and in this group of patients the blood is hypo-coagulable.

### Summary

In summary, many of the tests for the individual components of the blood show considerable promise, but to date there is no widely accepted, simple test to predict which patient will develop postoperative thrombosis. Aschoff<sup>2</sup> said long ago that thrombosis is the function of a number of variables and no doubt this still holds true.

### Bibliography

1. Allen, E. V.: Changes in the blood following operation. *Arch. Surg.*, 15: 254-264, 1927.
2. Aschoff, L.: Lectures on pathology. New York, Hoeber, 1924, pp. 253-278.
3. Bailey, G. H.: William Hewson, F. R. S. 1739-1774. An account of his life and work. *Ann. Med. Hist.* 5: 205-224, 1923.
4. Bancroft, F. W., Stanley-Brown, M., Quick, A. J.: Post-operative thrombosis and embolism. *Am. J. Surg.*, 28: 648-668, 1935.
5. Bancroft, F. W.: (In discussion of Sandrock, R. S.; Mahoney, E. B.) Prothrombin activity: a diagnostic test for early post-operative venous thrombosis. *Tr. Am. Surg. Assn.*, 66: 277-288, 1948.
6. Bergquist, G.: Über postoperative thrombosen. *Acta Scandinav.*, 83: 415, 1940. Abstracted in: *Australian and New Zealand J. Surg.*, 12: 155-156, 1942.
7. Brambel, C. E., Loker, F. F.: Significance of variations of prothrombin activity of dilute plasma. *Proc. Soc. Exp. Biol. Med.* 53: 218-220, 1943.
8. Cohen, M. S.: The coagulation of the blood as affected by various conditions. *Arch. Int. Med.* 8: 684-715, 1911.
9. Crafoord, C., Jorpes, E.: 1944, quoted by Mahoney, E. B., Sandrock, R. S.: The early recognition of postoperative venous thrombosis: Increased prothrombin activity as an aid to diagnosis. *Bull. N. Y. Acad. Med.*, 24: 636-650, 1948.
10. Cummine, H.: Postoperative thrombosis and the blood coagulation time. *M. J. Australia*, 1:10 302-305, 1947.
11. Cummine, H.: Postoperative intravascular thrombosis. *J. Internat. Coll. Surg.*, 12: 456-463, 1949.
12. Cummine, H., Lyons, R. N.: Quoted by Vorhees, A. B., Pulaski, E. I., *J. Lab. & Clin. Med.*, 34: 1352-55, 1949.
13. Dawbarn, N. Y., Earlam, F., Evans, W. H.: The relation of the blood platelets to thrombosis after operation and parturition. *J. Path. and Bact.*, 31: 833-873, 1928.
14. de Takats, G.: Heparin tolerance—a test of the clotting mechanism. *Surg. Gynec. and Obst.*, 77: 31-39, 1943.
15. de Takats, G.: Thromboembolism. *Minnesota Med.*, 28: 834-849, 1945.
16. Dunn, D. B., Jackson, M. A., Lyons, R. N.: Quoted by Vorhees, A. B., Pulaski, E. J., *J. Lab. & Clin. Med.* 34: 1352-55, 1949.
17. Elkin, D. C.: Venous thrombosis of extremities. *South. Surg.*, 14: 61-69, 1948.
18. Fisher, Ben: Variation in the Prothrombin test technic. *Am. J. Med. Sc.* 215: 39-41, 1948.
19. Hagedorn, A. B., Barker, N. W.: Coagulation time of blood heparinized in vitro: correlation of results with those of the heparin tolerance test. *J. Lab. & Clin. Med.* 32: 1087-1089, 1947.
20. Henrikson, E. C., Idstrom, L. G., Rogers, R. S.: Thrombophlebitis and phlebotrombosis. *Journal Lancet.* 68: 233-236, 1948.
21. Hirschboeck, J. S.: Blood coagulation-retraction time and its relation to thrombosis. *Proc. Central Soc. Clin. Research*, 20: 33-34, 1947.
22. Hurn, M., Barker, N. W., Mann, F. D.: Variations in prothrombin and anti thrombins in patients with thrombosing tendencies. *Am. J. Clin. Path.* 17: 709-711, 1947.
23. Joseph, M.: Prophylaxis in postoperative thromboembolism: preliminary report. *J. M. Soc. N. Jersey*, 45: 337-340, 1948.
24. Kay, John H.: Personal Communication (Feb.) 1950.
25. Lee, R. I., White, P. D.: A clinical study of the coagulation time of the blood. *Am. J. M. Sc.*, 145: 495-503, 1913.
26. Linton, R. R.: Pulmonary embolism and venous thrombosis: Diagnosis and prophylaxis. *J. M. Soc. N. Jersey*, 44: 394-400, 1947.
27. Lister, J.: On the coagulation of the blood. *Proc. Roy. Soc. Lond.* 12: 580-611, 1862-3.
28. Loewe, L., Lasser, R. D., Morrison, M.: The prediction of thromboembolism. *Angiology* 1:64-72, 1950.
29. Mahoney, E. B., Sandrock, R. S.: The early recognition of postoperative venous thrombosis: Increased prothrombin activity as an aid to diagnosis. *Bull. N. Y. Acad. Med.*, 24: 636-650, 1948.
30. Margulies, H., Barker, N. W.: The coagulation time of blood in silicone tubes. *Am. J. Med. Sc.* 218: 42-51, 1949.
31. Morgan, J. L., Barker, N. W., Roth, G. M.: Coagulation time of whole blood as measured in silicone coated tubes before and after various surgical procedures. *Am. J. Physiol.* 155: 455-456, 1948.
32. Nielson, P. H.: Antithrombin content of blood after operations and during thrombosis. *Nord. Med. Hospitalstid.*, 20: 2205-2208, 1943.
33. Nizer, E.: Quoted by Allen, E. V. *Arch. Surg.*, 15: 254-264, 1927.
34. Nygaard, K. K.: Coagulability of blood plasma. *Proc. Staff Meet. Mayo Clinic*, 7: 544-548, 1932.
35. Ochsner, Alton: Personal communication (Jan.) 1950.
36. Ochsner, A., DeBakey, M.: Intravenous clotting and its sequelae. *Surgery*, 14: 679-690, 1943.
37. Ochsner, A., DeBakey, M.: Postphlebitic sequelae. *J. A. M. A.*, 139: 423-429, 1949.
38. Olwin, John H.: The significance of different methods for prothrombin estimation and their relative values. *Surg. Gynec. Obs.* 90: 423-429, 1950.
39. O'Neill, J. F.: Effects on venous endothelium of alterations in blood flow through vessels in vein walls: possible relation to thrombosis. *Ann. Surg.*, 126: 270-288, 1947.
40. Owren, P. A.: The coagulation of the blood. *Oslo J. Chr. Gundersen, Boktrykkeri*, 1947, pp. 327.
41. Potts, W. J., Pearl, E.: A study of the platelet count and the coagulation time of plasma and whole blood following operation. *Surg. Gynec. and Obst.* 73: 492-494, 1941.
42. Quick, A. J.: The coagulation of the blood: theoretical and practical aspects. *The proc. of the Inst. of Med. of Chicago*. 16: 96-106, 1946.
43. Rosenbaum, E. E., Barker, N. W.: A test of the coagulation time of blood heparinized in vitro: studies of normal subjects and of patients with intravascular thrombosis. *J. Lab. and Clin. Med.* 33: 1342-1347, 1948.
44. Seegers, W. H.: Blood coagulation and the practical significance of recent advances in knowledge of prothrombin and ac globulin. *Circulation*, 1: 2-9, 1950.
45. Shapiro, S.: Hyperprothrombinemia, a premonitory sign of thromboembolization. *Exper. Med. and Surg.*, 2: 103-109, 1944.
46. Shapiro, S.; Sherwin, B.; Gordimer, H.: Postoperative thromboembolization. *Ann. Surg.*, 116: 175-183, 1942.
47. Smith, L. A.; Allen, E. V.: Studies on the rate of venous blood flow; physiologic studies and relation to postoperative venous thrombosis and pulmonary embolism. *Proc. Staff Meet. Mayo Clinic*, 16: 53-56, 1941.
48. Smothrov, V. N.: Quoted by Allen, E. V. *Arch. Surg.*, 15: 254-264, 1927.
49. Spitzer, J. M.; Rosenthal, N.; Wiener, M.; Shapiro, S.: Pulmonary embolism: Its incidence at necropsy in relation to peripheral thrombosis. *Ann. Int. Med.*, 31: 884-888, 1949.
50. Starup, U.: Investigations into the coagulation time during and after operations. *Nord. Med.*, 16: 2876-2881, 1942.
51. Strauch, M. V.: Über venen thrombose der unteren Extremitäten nach Koliotomien hei beckenhochlagerung und Äthernarkose. *Centralbl. f. Gynäk.*, 18: 304-306, 1894.
52. Strömbeck, J. P.: An attempt to evaluate the different modern methods for the prevention and treatment of thromboembolism. *Acta Chirurgia Scandinavica* 97: 113-134, 1948.
53. Tuft, H. S., Rosenfeld, R. E.: Significance of the accelerated reaction in determination of prothrombin time of diluted plasma. *Am. J. Clin. Path.* 17: 704-708, 1947.
54. Tuft, H. S.; Rosenfeld, R. E.: Detection of intravascular clotting tendency by heparin tolerance principles: methods and clinical applications. *Am. J. Clin. Path.* 17: 862-865, 1947.
55. Vorhees, A. B., Pulaski, E. J.: The fibrinogen B test and intravascular thrombosis. *J. Lab. & Clin. Med.* 34: 1532-1535, 1949.
56. Waugh, T. R.; Ruddick, T. W.: Studies on increased coagulability of the blood. *Canad. M. A. J.* 51: 11-17, 1944.
57. Wright, A. E.: On a method of determining the condition of blood coagulability for clinical and experimental purposes, and on the effect of the administration of calcium salts in haemophilia and actual or threatened hemorrhage. *Brit. M. J.*, 2: 223-225, 1893.
58. Wright, H. P.: Changes in the adhesiveness of blood platelets following parturition and surgical operations. *J. Path. and Bact.* 54: 461-468, 1942.
59. Wright, H. P.: Postoperative thrombosis. *Proc. Roy. Soc. Med.*, 41: 17-28, 1948.

# Medical Aspects of Atomic Explosion\*

Heinz Richard Landmann, M.D.

Santa Fe, New Mexico

With the increasing fear that we may be exposed to an atomic attack, distorted and exaggerated conceptions of its effects, especially the radiation effects, have arisen in the minds of the uninformed. Such were nurtured by many newspaper and magazine articles which played up the intangibles of this new weapon, only barely, or not at all, mentioning the entire picture of the atomic explosion which accounted for only 15 per cent of radiation casualties in Hiroshima and Nagasaki. These stories led to the wildest speculations of the imagination and ascribed powers to the atom bomb that really do not exist. Such stories perhaps had their place at a time when we were assured that no one else had the atom bomb, but now that we have definite knowledge that we are no longer the guardians of the secret, such stories prove to be a psychological boomerang. Therefore, it behooves us all to know what the atomic bomb can do and what it cannot do. What types of injuries does it produce and what can we do for them? How soon will it be safe to enter a bombed-out area without being exposed to an overdose of radiation?

Space here does not permit a detailed discussion of the basic principles of nuclear physics involved nor a description of the technicalities of the atomic bomb. Such information can easily be obtained elsewhere.<sup>1</sup>

The medical aspects of an atomic explosion can be subdivided into three categories, namely, (1) the thermal effects, (2) the blast effects, and (3) the radiation effects. The explosion itself can occur above the ground, on the ground, or under water.

Let us consider the effects of an atomic explosion as it occurred in Japan, which was an air explosion. At the instant of detonation the temperatures that are generated approach that of the center of the sun. A "ball of fire" is produced, which rapidly spreads from the center of the bomb to about 300 feet, and then rises in its own thermal updraft, gradually losing its brilliance and heat, in the atomic cloud and the surrounding atmosphere. This rise produces the, by now, familiar mushroom-formed cloud. Practically all substance within the area of this ball of fire is burned completely.

Beyond the area of the ball of fire, secondary fires are started, adding their effects to the already tremendous thermal updraft which carries the ball of fire and the atomic cloud upward to an elevation of 50,000 to 60,000 feet in a matter of minutes.

The flashburn effect of the ultra violet radiation is also a factor. All this is almost instantaneous, and the temperature of an exposed individual's skin can be raised by 50 Centi degrees by the flash in the first milli-second at a range of 4,000 yards. Flash burns, as we will see later, are prevented by a minimum amount of shielding. The burns will occur only on those parts of the body which are exposed to the source of the flash, so that unilateral burn is the rule. It is to be noted, however, that light clothing gives much better protection than dark clothing. Permanent injury to the eyes due to the flash has not been frequently seen, but even at a distance of 10 miles temporary blindness will result from looking at the flash. There is every reason to believe that permanent retinal damage would result from closer direct exposure. Every wave length of the spectrum, from infra-red to ultra-violet, is released, and the heat wave which is carried outward by the blast is appreciable at 10 miles. The flash is visible at over 200 miles.

*Blast Effects:* We have to remember that an atomic explosion such as occurred in Japan had the equivalent explosive power of 20,000 tons of TNT. To quote from the statement of the report of the Strategic Bombing Survey: "From the epicenter to a distance of one mile there is heavy blast damage. All frame or brick buildings are demolished and only those sturdy, reinforced, concrete structures on the periphery of this zone escaped complete destruction. The interior of these buildings is subject to intensive damage. Further out from the epicenter within the one- to two-mile radius, heavy damage is sustained. Here some of the larger, well-built structures seem to be intact. A closer examination shows that the interiors are extensively damaged, and many are gutted by fire. Between two and three miles distant, moderate blast damage is in evidence amongst the ruins. It is concentrated mostly on frame buildings and plants of light construction."

Another phenomenon connected with both the blast and thermal effect is observed in an atomic explosion. It is the pressure effect which, in all explosions, extends from the center outwards; however, due to the huge thermal updraft of the ball of fire, there will be, after a few seconds delay, a terrific back-rush of air which, in the explosions at Hiroshima and Nagasaki, nourished the secondary fires tremendously. This phenomenon is called the fire storm. This violent inrushing of winds in the direction opposite to the blast wave will hurtle also a great quantity of material and debris toward the

\*A condensed version of a forum address given at Winter Veterans Administration Hospital, Topeka, Kansas, November 3, 1950.



point of detonation. Anyone fortunate enough to escape the original blast because of shielding might well become a casualty during this second phase.

*Radiation Effects:* With the detonation of the bomb, we have the emission of alpha and beta particles, of gamma rays and neutrons. This initial emission is termed the "direct radiation." The direct radiation is of short duration (about 90 seconds) and, inasmuch as alpha and beta particles have a very short range, it would be unlikely to find casualties from direct alpha and beta radiation, because any living being would have succumbed to the thermal effects. By far the greatest number of radiation casualties are caused by the delayed or residual radiation which are the radiations emitted by the fission products rising in the atomic cloud. Here, the gamma rays are the most feared, because of their larger range. They can produce severe biological damage.

Another radiation hazard is the neutron. Neutrons are the cause as well as the result of fission. They are present only during the actual explosion of the bomb and for an almost imperceptible period thereafter. Neutrons have a range of not more than 1,000 yards and it is unlikely that casualties would be produced by them in individuals who would not reasonably be expected to become casualties from the thermal and blast effects, unless those individuals were well shielded by protective walls from the fire and blast. The neutron has great power of penetration, however, and ordinary reinforced concrete buildings or shelters would not protect against injury unless specially built for this purpose.

Now, what have we learned from the experiences in Hiroshima and Nagasaki, as to the different types of casualties? The direct blast effects resulting from the bomb detonation at Hiroshima were insignificant and caused about 100 ruptured eardrums. There were no cases of trauma to the lung or ruptured viscera reported. However, the indirect effect was tremendous. Flying debris, timbers, masonry, and glass resulted in thousands of casualties. Windows were broken to a distance of about 13 miles. General Cooney, who reviewed the hospital records of 625 cases in one hospital, found only one fractured femur. He noticed, moreover, that there were only few serious injuries such as fractured spines or skulls. He feels, however, that due to the apathy of the general population, no systematic evacuation of the seriously wounded was undertaken and that they, therefore, fell victim to the fires.

This is one tremendous lesson we will have to learn here in case of an atomic explosion, namely, that it is relatively safe to enter a bombed area after approximately 90 seconds and that all efforts must be made to extinguish the secondary fires and

to evacuate the wounded. It is unfortunate that so much publicity has been given to the radiation effects of the bomb and practically none to the blast and burns, which, after all, claimed 85 per cent of all casualties. We must, therefore, not frighten people to the extent that they will refuse to cooperate in rescue attempts. If such should happen thousands of wounded would be neglected and burned to death.

With respect to burns, the casualties so produced can be divided into two categories: flash burns and flame burns. Flash burns resulted from the tremendous flash of heat released at the instant of detonation. Burns occurred within a short space of time on the exposed surfaces of the body of individuals who were in the open, out to a distance of approximately 4,000 yards. Within a 1,000-yard radius clothing offered very little protection. In fact, there were many cases in this area where the clothing actually caught fire and the individual was burned to death. Outside the 1,000-yard radius, clothing offered considerable protection. The darker shades of clothing, however, absorbed more heat and frequently caused burning of the skin, whereas the lighter shades absorbed less heat and offered more protection. Tightness of clothing is also a factor to be considered. Exposed individuals sustained burns on areas where the clothing was in direct contact with the skin while loose, light-fitting garments offered some protection. Burns occurred only on the exposed surfaces of the body which were in the direct path of the flash.

The burns were of all varieties, namely, first, second and third degree, depending upon the distance of the individual from the center of the explosion. There were also effects from ultra-violet radiation. These, however, were minimal, probably because of the absorption of this radiation by moisture in the air and due to the fact that there was a large amount of ozone generated by the explosion. Ozone is an efficient absorber of ultra-violet rays. However, some people approximately 2,200 yards from the center of the detonation received sufficient ultra-violet radiation to cause a deep walnut stain of their exposed skin. Others, approximately 2,000 yards away, received such large quantities that the pigmented layer in the skin was completely washed out, leaving an Albino-like appearance.

Throughout both Hiroshima and Nagasaki, the secondary fires proved to be of great concern. The tremendous number of casualties from these fires emphasized the need for an early, well-planned, efficient evacuation of personnel. The problem of caring for the thousands of burned cases in an atomic explosion is truly a challenge to the ingenuity and resourcefulness of those charged with its planning. Let us remember the 300 to 400 casualties

that resulted from the Cocoanut Grove fire in Boston which taxed their medical facilities to capacity. Let us multiply these figures a few hundred times and we have an idea of the magnitude of the problem of burns in an atomic explosion.

We know that burns require prompt treatment in order to alleviate suffering and prevent infection. If burns become infected the difficulty in treatment becomes greatly magnified and the end result is usually poor. In Hiroshima, thousands of burns became infected and finally healed with large keloid formation and contractural deformities. I was told that the medical supplies were so poor that the Japanese resorted to mashed sweet potatoes to cover up burns.

Radiation effects in both Hiroshima and Nagasaki accounted for only 15 per cent of the casualties. These were produced mostly by delayed gamma rays. Injuries produced by radioactivity, be it alpha or beta particles, gamma ray or neutron, are sustained by ionization. Ionization can be understood if one considers one of these radiations colliding with an atom and thereby causing the atom to lose an electron from its orbit. When the atoms comprising the living cell undergo a specific degree of ionization, the living processes cease and the cell dies. The mechanism of the cause of death is not too clearly understood, but it is thought that ionization results in the formation of hydrogen peroxide which is an enzyme inhibitor; and without a functioning enzyme system no living being can exist.

To evaluate properly the radiological hazards from the various types of nuclear particles and radiations, we must understand the difference between external and internal radiation. External radiation includes all nuclear particles and radiations which emanate from a source outside the body. Internal radiation, on the other hand, refers to a source of radiation within the body. The alpha particle is comparatively large as compared to the other nuclear particles. The range of the most energetic alpha particle usually does not exceed a few centimeters in air and a few millimeters in tissue. Therefore, they are easily stopped by the horny layer of the skin. Therefore, alpha particles do not present a problem from the standpoint of external radiation. A beta particle has a range of a few meters in air and perhaps a half centimeter in tissue. Beta particles have the ability to produce severe damage to the skin if present in sufficient quantities. However, they do not penetrate into the deepest structures of the body such as the bone marrow or the lymph glands. From an external radiation point of view, beta particles only affect the skin. Gamma rays or neutrons, however, have the ability to penetrate to the deepest structures and vital organs and cause ionization within the tissues which may result in death. There-

fore, gamma rays and neutrons are the most feared from the point of view of external radiation.

Radioactive materials, from the standpoint of internal radiation, may gain access to the body through either ingestion or inhalation or through a break in the skin. Internally, the alpha particles are most dangerous because they are in contact with the tissues and, as they have tremendous ionization ability, they can severely damage adjacent tissues. Such constant trauma over a period of years may result in the formation of malignant tumors. We gain the tragic cognizance of this fact by the cases of radium dial workers who ingested radium by touching the paint brush to their tongues. The ingested radium gained access to the blood stream via the gastro-intestinal tract and was deposited in the bones, resulting in the formation of osteogenic sarcomata five to 15 years later.

Several factors control the ease or difficulty of getting radioactive materials into the body. These include the solubility of the material, the size of the particles, the biological half life and the principal site of deposit within the body. Fortunately, most of the fission products or fissionable material such as uranium or plutonium are insoluble. However, some other fission products, especially those of barium, strontium, and iodine are soluble and are easily fixed within the body. However, none of these materials have any military importance.

The beta particle can also be an internal hazard but much less than the alpha particle. Gamma rays and neutrons are of no significance from the standpoint of internal radiation. Whether very large doses (a dose well above the lethal dose of 600 R) will kill instantaneously could not be proved because in both Hiroshima and Nagasaki, those persons close enough to the detonation to receive such massive doses fell victim either to blast or fire. The data gained as to the lethal dosage of acute radiation in man are mostly conjectural and calculated from animal experiments.

Figure 1 shows, approximately, the effects of acute total radiation on the human body. Figure 2 describes the clinical symptoms of acute radiation sickness along with the approximate dosage and the time elements involved. Besides these clinical symptoms, the most characteristic laboratory test for

Figure 1

#### APPROXIMATE EFFECTS OF ACUTE WHOLE BODY RADIATION

up to 25 r	No injury.
25 - 50 r	Possible blood changes.
50 - 100 r	Blood changes, some injury, no disability.
100 - 200 r	Definite injury, possible disability.
200 - 400 r	Definite injury and disability, death possible.
400 - 600 r	400 r lethal to 50 per cent. 600 r lethal to 100 per cent.



Figure 2

<i>Time After Exposure</i>	<i>First Week</i>	<i>Second Week</i>	<i>Third Week</i>	<i>Fourth Week</i>
600 r	Nausea and vomiting after 1-2 hours. No definite symptoms for 2-3 days. Diarrhea, vomiting.	Oro-pharyngeal lesions Fever, Emaciation. Death.		
400 r	Nausea and vomiting after 1-2 hours. No definite symptoms middle or end of second week.	Beginning loss of hair.	Anorexia, Malaise, Fever. Oro-pharyngeal lesions.	Pallor, petechiae, nose-bleed, diarrhea, emaciation, death, (Mortality probably 50 per cent).
300 to 100 r	No definite symptoms	toms until about middle of 3rd week.		Epilation, Anorexia, Malaise, oro-pharyngeal lesions, pallor, petechiae, diarrhea, (Recovery likely).

acute radiation sickness is the blood picture. Soon after exposure there is a drop in the number of lymphocytes. In some instances, however, an increase in the total white cell count was reported in Japan. This was apparently due to a gain in the number of granulocytes. But such an increase was soon followed, within a few hours, by a sharp decrease. Usually there was, after the first day, a rapid decrease of total white count which continued for about five to six days. In most instances the count leveled off between 1,000 and 3,000, but in severe cases it dropped as low as 300 or below just before death. A surviving case showed a slow increase in the number of lymphocytes after such had reached the low point within one week. By the end of the third week both the lymphocytes and the granulocytes will increase in numbers again. However, during this period the red blood cells may show a decline, especially in cases where radiation dosage was high. It is apparent, therefore, that ionizing radiation has a selective effect on the bone marrow and the lymphoid tissue.

It is of interest to mention here, too, that shielding of the spleen in experimental animals increases the tolerance to ionizing radiation twofold. With the leukopenic or pancytopenic blood picture there is the appearance of oro-pharyngeal lesions such as are seen in agranulocytosis. Other evidences of radiation upon the body, and especially on the lymphoid tissue, are complete cessation of immunological reactions because immune substances can no longer be formed in the injured lymphoid tissue. The bone marrow will reveal a depression in new formation of blood elements. The gastrointestinal tract will show ulcerations, and the permeability of the capillaries is increased as evidenced by numerous petechiae.

I shall not go into further details, for it is apparent that ionizing radiation causes, by a disturbance of the cellular metabolism, widespread dam-

age. It is of interest that the most resistant cell to ionizing radiation in the body is the nerve tissue cell. That the water and the electrolyte metabolism is disturbed goes without special emphasis. To date it has not been proved that one need worry about genetic effects such as mutations. Apparently germ cells are so sensitive that they will die rather than be in a state of transmitting mutagenic properties.

*Treatment of Radiation Sickness:* We know that there is no single drug that would counteract such illness. The uppermost problem for management of these cases is the maintenance of proper water balance. Such patients are nauseated, vomit, and develop diarrhea. Water loss may be excessive and oral intake of food and water will surely be low in a patient whose gastrointestinal system has received a major trauma. Dehydration must not be allowed to develop because it entails also a disturbance in the acid base balance which is most undesirable. Therefore, intravenous saline and five per cent glucose solution should be used early. Maintenance of an adequate diet is equally as important. One must remember that these patients have undergone tissue destruction and the material for repair must be provided. However, it will be impossible to feed these patients to a point where the daily requirement of 3,000 to 4,000 calories, including 150 to 200 grams of protein, can be met. All intake, therefore, must be supplemented by intravenous feedings. Moreover, the vitamin intake should be maintained.

It is thought that petechiae and hemorrhages are due to a heparine-like substance liberated by the ionizing radiation. Toluidine blue and protamine sulphate give promise of controlling the hemorrhagic tendency. Whole blood transfusions appear to have little effect on the hemorrhage but, as the case progresses, the red and white counts fall and require transfusions as a means of oxygen transport along with the white cells and antibodies to bolster the body's bacterial defenses. Unless the exposure

to ionizing radiation has been overwhelming, the bone marrow will regenerate if given time. The rationale of whole blood transfusions, in fact of all recommended therapy, is to provide time for this regeneration to take place.

The use of antibiotics is recommended along with the transfusions because secondary infections are frequent, especially in the presence of leukopenia. There is no treatment for the epilation which may occur in the second or third week. However, the patient should be told of the possibility of such and be assured that it has no bearing upon the final outcome of his case. He should be told further that the hair will return within a few months, which will eliminate a great deal of psychic trauma. We must not lose sight of the fact that these patients will be apprehensive, and anything that can be done to reassure them or to make them more comfortable will be helpful.

The use of adrenal cortical hormone has not been studied extensively enough to allow any definite conclusion on its place in the treatment of radiation sickness. Although there have been reports in the literature of its beneficial effect in burn cases, we must remember that the use of ACTH and cortisone, for instance, will inhibit wound healing and their usage should be looked upon with caution. Our knowledge of the treatment of radiation sickness from tremendous sudden exposures is limited and the foregoing was given as a suggestion rather than as definitive treatment.

It was mentioned earlier that direct radiation effects of atomic explosion will last only 90 seconds. After this time, it is relatively safe to enter a bombed area in order to fight fires and evacuate the wounded. However, there remains some danger from residual radiation. This may or may not be great, and, in order to determine the safety margin with which personnel can work in these areas, we have certain methods of measuring radiation. One of the most widely known instruments is the Geiger-Muller counter. Another instrument is the ionization chamber. These instruments are designed to measure the ionization produced by the radioactive emissions. The scope of this paper prevents going into the details of their construction. These instruments are carried by one member of the different crews that enter a bombed-out area, and they will detect the signs of residual radiation.

It has been calculated that an exposure of one-tenth roentgen per day is permissible and will not result in any latent radiation injuries. In order to determine one's individual exposure, small pocket dosimeters have been designed in which one can read the amount of exposure. Another method of determining exposures is the film badge. This is an x-ray film the size of a dental x-ray film and it is

worn on the clothing of the personnel entering a radiation area. After their return, these films are developed and put under an instrument known as a densitometer. From the density of the emulsion that was struck by the radiation, one can determine approximately the amount of radiation to which they were exposed.

It goes without saying that anyone returning from a bombed-out area will have to go through a decontamination process by shedding his clothes, by taking showers with water and soap, and by being gone over with the Geiger-Muller counter. If he is still radioactive, a repeated shower with water and soap will usually remove the radioactive particles that have attached themselves to the surface. This radioactivity is not an induced radioactivity in the human body. It is merely residual activity from particles and fission products that have attached themselves to the skin. The clothing is collected and put in a barrel. If necessary, it is buried, and the spot is marked. One can leave such clothing alone because radioactive decay, after awhile, will render these garments harmless.

When the exposure of one-tenth roentgen has been reached by the personnel, such personnel must be withdrawn and new workers sent in until they, in turn, have been exposed to one-tenth roentgen. Adhering strictly to such procedure makes it relatively easy to give prompt first aid and to combat any secondary fires that may exist.

Naturally, what was said for rescue personnel holds also for victims that are removed. They too will have to undergo decontamination at decontaminating stations to be set up at the periphery of a blast area. Contaminations of an air burst of an atomic bomb, however, do not present too great a problem because most of the fission products are carried upwards to the stratosphere and are rendered harmless by radioactive decay far removed from any habitation.

The problem of decontamination is different, however, in the case of a ground explosion or an under-water detonation. Inasmuch as a ground explosion has a blast effect materially less than an air burst, it is unlikely that it will be used militarily. However, under-water explosions such as occurred at Bikini could be used against harbor installations and cities close to a large body of water. Here the spray and the tidal waves, which would overrun the coastal area, carry a tremendous amount of residual radiation. In under-water explosion, blast and thermal as well as direct radiation effects are negligible. However, as one can easily imagine, residual radiation proves to be the greatest problem.

All areas close to the detonation would be heavily contaminated and radioactive. With proper precautions, namely those described above, plus the



wearing of proper clothing, which must include gloves and a gas mask, one can try to decontaminate an area as quickly as possible by sending in properly trained crews. The gas mask must be worn to eliminate the hazard of internal radiation caused by the inhalation of radioactive spray. The ordinary chemical warfare department gas mask is fully sufficient for this purpose.

It becomes evident that it is necessary in civil defense to train crews who are familiar with some basic principles of nuclear physics because some of them must be charged with the proper maintenance of equipment and with the correct interpretation of findings. The threefold effects of an atomic explosion, furthermore, necessitate the decentralization of rescue equipment and fire apparatus. Should an atomic explosion occur in a city like New York, Chicago, Los Angeles, or San Francisco, it would be impossible, even with some warning, to evacuate the entire population. While it remains a tragic fact

that casualties will occur, it is most desirable that information as to what the atomic bomb can do and cannot do be disseminated. It is desirable to debunk the fantastic stories of radiation effects which have appeared in newspaper and magazine articles. It is most important that everyone keep a cool head and be aware of what he, personally, can do to protect himself, which, in the case of a surprise attack, would be to duck quickly behind anything that offers shelter in the direction of the explosion. A general panic, naturally, would impede rescue attempts. Only by true information as to radiation effects will we get sufficient people to help fight fires and extricate the wounded. Let us hope that we will never be exposed to an atomic attack, but if it occurs, let us be as calm as the circumstances will permit.

#### Bibliography

1. The Effects of Atomic Weapons. U. S. Government Printing Office, Washington 25, D. C. Sept. 1950.

## Pulmonary Moniliasis

William W. Abrams, M.D.

Kansas City, Kansas

Infection of the lungs with *Monilia albicans* is presented in this study.

The Monilial group of fungi is one of the more common to affect the human being, being constantly present in about three per cent of all people without producing disease,<sup>1</sup> and is found in a large percentage of normal stools.<sup>2</sup> The mode of infection with this fungus is varied—it can be inhaled in dust, it can be introduced into the bloodstream of individuals directly, as is the case of drug addicts who administer to themselves their injections through improperly antisepticised skin.<sup>3</sup>

The characteristics of *Monilia albicans* tend in part to explain its infectivity. The organism is yeast-like, and multiplies by budding. It has been shown that the organism is extremely resistant to drying, thus accounting for the inhalatory manifestations, as in lung affections. The cultured growth smells like yeast,<sup>4</sup> and is viable for as long a time as a year after soaking in water.<sup>5</sup>

The disease seems to be more prevalent in semitropical and tropical climates,<sup>6</sup> but has been seen sporadically in all parts of the world, regardless of climate.

As to the period of incubation, Cain, et al., have found in their series of 26 cases that it averaged a period of 11.4 days.<sup>9</sup>

Castellani<sup>5</sup> in 1905 first reported moniliasis in the human being in a tea-taster in Ceylon, India. Since that time many cases of obscure lung affec-

tions with *Monilia albicans* have been reported. Hankins and Spinner<sup>7</sup> reported two cases of pneumonia with positive blood culture of *Monilia albicans*. Reports of lesions in other parts of the body, as Monilial vaginitis, thrush, and intestinal infections are common.

In the lung, the lesion closely resembles that of tuberculosis, with consolidation and usually no cavitation, with the concomitant production of bands of fibrous tissue. Microscopically, the lesion is not unlike that of tuberculosis,<sup>7a</sup> with the caseation in the center and the surrounding lymphocytes and the occasional giant-cell present, but to state there is a definite lesion diagnostic of moniliasis would be erroneous.

Predisposing conditions seem to favor Moniliasis albicans infection, as with any other type of infecting organism. It has been shown that asthmatics with bronchiectatic dilatations often develop moniliasis complications.<sup>8</sup> This is because the bronchiectatic dilatations afford a good soil for the growth of this fungoid complication.

As to the symptomatology, the onset is usually sudden with the production of substernal and precordial distress such as "weight," general weakness, muscle tiredness, and profuse sweating. Cain, et al.,<sup>9</sup> report that over 50 per cent of their cases had this feature of sweating. Fever and chills do occur, although the former is usually of a low grade type; however, the temperature of 106°F. has been re-

ported. The cough usually present is of the hacking type, with the production of green thick mucopurulent sputum of variable quantity.

Physical examination, however, does not reveal too much. Breathing averages 20 to 25 per minute, and is usually of the regular type. There is no distinct increased dullness; there is a presence of scattered moist, fine rales throughout the entire lung fields. Roentgenologically, one is reminded of pulmonary tuberculosis, and, as a matter of fact, this has been the diagnosis returned in a goodly per cent of those x-rayed for this disease.<sup>6,8</sup>

Diagnosis of moniliasis must be made from the laboratory findings. Complete workup, as to white counts, differentials, sputum examinations and sputum cultures, blood cultures, guinea pig inoculations, serological tests for complement fixations and agglutinations, and electrocardiographic recordings should be made. The finding of acid-fast organisms in throats<sup>3</sup> and in stomach washings is not conclusive evidence that the individual has tuberculosis, as there are strains of acid-fast organisms that are not pathogenic. Similarly, the finding of *Monilia albicans* repeatedly in the sputum and/or bronchoscopic smears positive for the same would help in determining the cause of an obscure lung disease. Differential diagnosis with other lung ailments should be considered, and a table as follows is prepared:

<i>Disease</i>	<i>Distinguishing Features</i>
1. Pneumonia (pneumococcic, staphylococcic:	Sudden onset with chill, high fever prostration, prune-juice sputum, helped by sulfas, penicillin. <sup>10</sup>

Primary atypical:

- |                           |   |
|---------------------------|---|
| 2. Coccidioidomycosis     | Gradual onset, fever, malaise, minimal chest findings out of proportion to x-ray findings; not affected by penicillin; appearance of cold agglutinins for patients with human group 'O' cells; or agglutinins for streptococcus MG. <sup>11</sup> |
| 3. Rickettsial infections | Endemic regions; complement fixation tests.   |
| 4. Boeck's Sarcoid        | Serologic tests, and possible history of vector bites.  |
| 5. Brucellosis            | Involvement of the skin, or lymph nodes, or uveoparotid tract, or bones.  |
| 6. Psittacosis            | Serologic tests, and possible history of drinking infected milk. <sup>12</sup>  |
| 7. Tuberculosis           | History of exposure to birds, Meyer-Eddie modification of Bedson's complement fixation serum test. <sup>13</sup>  |
| 8. Histoplasmosis         | Acid-fast organisms introduced into guinea pigs reproducing tuberculous lesions.  |
|                           | Presence of the proper organisms in lesions or in the blood.  |

The treatment of *Monilia albicans* infection is mainly supportive. Hiatt and Martin<sup>14</sup> report the recovery from pulmonary moniliasis from the use of immune rabbit serum. Penicillin seems to be inert; there are actually strains of *Monilia* that have been proved to be resistant to penicillin in vitro.<sup>15</sup> Gentian violet has been tried, but with little success. The sulfas apparently are inert. Potassium iodide, in doses of one to five grams daily, seems to be the medicament of choice.<sup>16</sup> Insulin, for the improvement of the appetite and to gain weight, is recommended.<sup>17</sup> Rest in bed and time seem to be the only agents of value in many cases.

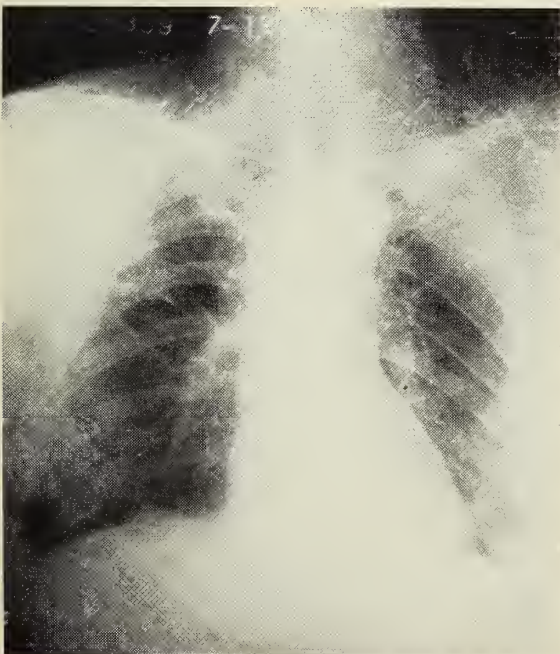


Figure 1

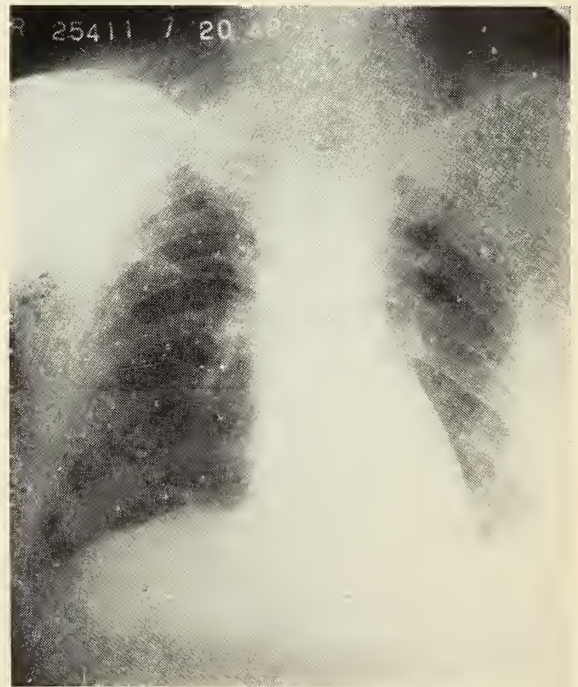


Figure 2



The following case report is presented: Mr. W.P., age 74. Present illness began about 4:30 a.m., on July 4, 1948, when he was awakened by a severe pain under the heart when he rolled over in bed. He described the sensation as "as though a piece of twine were around the chest and squeezing under the heart." This lasted only about two minutes, and he fell back to sleep. He was admitted to Providence Hospital on that date.

The past history was essentially negative; he had never had any serious illnesses or operations. Admitting temperature was 99.4°F. Physical examination revealed a well nourished male of 74, perspiring profusely, appearing acutely ill. Respirations were 24 per minute, pulse 108 per minute. Examination of his eyes showed normal reaction to light and accommodation, pupils were equal, nose and throat not abnormal. The chest was barrel-shaped, resonant throughout. P.M.I. was not palpable; sinus tachycardia was present; there were no murmurs. There was a tenderness along the right costal margin. Laboratory findings showed a negative urinalysis; hemoglobin was 100 per cent, with 5,700,000 RBC; white count was 16,800, with a differential of 83 per cent polymorphonuclears, of which 80 were filamented and three non-filamented, 11 lymphocytes, one monocyte and five eosinophiles. Sputum examinations on July 5, 7, and 10, 1948, showed *Monilia albicans* present. No acid-fast organisms were ever found. X-ray of the chest showed, on July 5, 1948, "There is an infiltration in the left upper chest and some pulmonary congestion in the left base. Some fibrous infiltration is shown in the right apex associated with a thickening of the right minor interlobar fissure. The picture suggests the presence of a chronic fibroid tuberculosis, possibly superimposed by an acute respiratory infection." On July 12, 1948, further x-rays of the chest were made with the following additional remarks, "There is no definite evidence of cavitation within the area of cloudiness in either of the apices. The findings are those of an acute pneumonic infiltration with pleural residue. One must consider this of a tuberculous etiology due to its location, until proved otherwise." On July 20, 1948, another x-ray of the chest showed, "The picture continues to be that of a pulmonary tuberculosis. The possibility of mycotic infection must be considered but is believed less probable." Electrocardiograms showed sinus tachycardia, low voltage of T-waves, probable myocardial insufficiency.

Progress in the hospital: Temperature was 102°F. at its peak, on the second hospital day. Cough decreased, but expectoration persisted. Treatment consisted of supportive measures, digitalis, penicillin, and streptomycin.

Second admission: Patient was readmitted to Providence Hospital on July 18, 1948, because of severe night sweats and recurrent pains over his heart. The patient complained also of "fast, irregular heart beats." His cough had decreased in severity, and the patient looked considerably worse. Physical examination revealed essentially the same findings as on the first admission. His abdominal tenderness had disappeared. The sputum was negative for acid-fast organisms and was positive for *Monilia albicans*. Treatment consisted again of penicillin, along with streptomycin, potassium iodide and supportive measures.

He was dismissed from the hospital temperature free on July 27, 1948.

A study of *Monilia albicans* infection of the lung is presented, along with a review of the literature and the presentation of a case, the purpose being to show the close resemblance of this disease to pulmonary tuberculosis, as well as to other lung conditions. In order to make a diagnosis, I find that it is especially important that:

1. Sputum examinations should be complete, calling for fungus examinations as well as for the presence of other organisms.
2. Repeated x-ray reports of probable tuberculosis lesions with minimal physical findings should be a warning signal for more workup in differential diagnosis.

#### Bibliography

1. Keiper, T. W., Studies on yeast-like fungi isolated from pulmonary disease. *J. Lab. & Clin. Med.*, 1938, XXIII 343-344.
2. Rae, M. Viola: Lung infection roentgenologically tuberculous but bacteriologically yielding pathogenic yeast (*Monilia*) and non-pathogenic acid-fast bacilli. *Can. J. Pub. Health* 34: 241-244, May, 1943.
3. D. S. Martin: Monilial immunologic relationships among various species. *Am. J. Trop. Med.* 22: 293-303, May, 1942.
4. Anderson, Phyllis M.: a laboratory study of *Monilia albicans* M. J. Australia 2: 57-59, July, 1946.
5. Castellani, A.: Viability of some pathogenic fungi in distilled water. *J. Trop. Med. & Hyg.* XLII 1939, p. 225.
6. Reeves, R. J.: The incidence of bronchomycosis in the South. *Am. J. Roent.* 45:513, April, 1941.
7. Hankin, Morris A., and Spinner, Samuel: Pulmonary Moniliasis. *Conn. M. J.* 6: 264-265, April, 1942.
- 7a. Schattenberg, H. J., and Flinn, M.: Experimental studies on bronchomoniliasis. *Proc. Soc. Biol. & Med.* 41: 557-558, June, 1939.
8. Wiese, E. Rob't, and Bixby, E. W.: Bronchiectasis associated with *Monilia* simulating pulmonary tuberculosis. *J. Lab. & Clin. Med.* 26: 624-630, Jan., 1941.
9. Cain, James C., Col. MC, Devins, Edward J., Maj. MC, and Downing, John E., Lt. Col. MC: An unusual pulmonary disease. *Arch. Int. Med.* 79: 626-641, June, 1947.
10. McCollum, J. K.: Pulmonary moniliasis with primary bronchogenic pneumonia (due to *staphylococcus aureus*). *Lancet* 2: 306, Sept. 13, 1941.
11. Schoenbach, Emanuel B., and Bryer, Morton S.: Treatment of primary atypical pneumonia with Aureomycin. *J. Am. Med. Assn.* 5: 275-280, Jan. 29, 1949.
12. Angle F. E.: Treatment of acute and chronic Brucellosis. *J. Am. Med. Assn.*, 1935, CV:1639.
13. Beckman, Harry: Treatment in General Practice, 1946: 177-178.
14. Hiatt, J. S., and Martin, D. S.: Recovery from pulmonary Moniliasis following serum therapy. *J. M. Med. Assn.* 130: 205-206, Jan., 1946.
15. Wessler, S., and Brown, H. R.: *Monilia albicans* strain clinically resistant to penicillin in vitro. *Annals Int. Med.* 22: 336-390, June, 1945.
16. Beckman, Harry: Treatment in general practice, 1946: 139.
17. Koerth, C. J., Donaldson, J. M., Jr., and McCorkle, R. G.: Bronchomoniliasis. *Am. Rev. Tuberc.* 43: 723-737, June, 1941.

# Typhoid Fever Treated With Chloromycetin\*: Report of a Case

Robert L. Jenson, M.D., and William E. Spicer, M.D.\*\*

Kansas City, Kansas

An opportunity recently presented itself to study the effects of chloromycetin (chloramphenicol) in a proved case of typhoid fever.

The patient, M.S., a 26-year-old white female, was admitted to the University of Kansas School of Medicine on December 28, 1949, with the chief complaint of fever, chills, and rash.

On November 30, 1949, she gave birth to her fourth full-term child. This pregnancy was normal, as were the preceding three, having no toxemia either early or late, excessive weight gain or other complicating features. Delivery was normal and the postpartum course was uneventful.

On December 13, 1949, there was a sudden onset of pain, redness, heat and swelling of the left breast. A chill with subsequent temperature rise to 104°F. occurred on December 14, 1949. Penicillin was administered but daily rigors and fever continued. On December 15, 1949, she was hospitalized in Garden City, Kansas, where she received penicillin, aureomycin, and streptomycin. Despite this therapy the afternoon rigors followed by fever and sweating continued. On December 23, 1949, a widely scattered rash appeared upon the abdomen, back, buttocks, and chest. It consisted of a number of rose-colored flattened papules which were slightly raised, ranged in diameter from two to four mm. and disappeared upon pressure. The rash appeared in successive crops. Tenderness developed in both lower abdominal quadrants and thighs which subsided within the succeeding 24 hours.

As a child she had measles, mumps, chicken-pox, whooping cough, and scarlet fever. The latter was followed by otitis media and laryngitis. Other than the occurrence of pyelitis in 1947 she had never had a serious illness, injury, or operation.

On December 28, 1949, physical examination revealed an acutely ill, well-nourished, well-oriented white female of the stated age. Blood pressure was 90 mm. systolic. 60 mm. diastolic. Pulse was 90 and dicrotic, respirations 14. A widely scattered rose-colored rash described above was present over the abdomen, lower chest, thighs, back and buttocks. The tongue was dry and coated. No enlarged lymph glands were present. The lungs were normal. The

heart was not enlarged and showed no murmurs, thrills or abnormal rhythms. The liver, whose edge was palpable four fingers below the right costal margin, displayed an edge which was sharp, smooth, and tender. The spleen was palpable two fingers below the left costal margin. The extremities displayed no abnormalities. The reflexes were physiological no nuchal rigidity was present, and the Kernig, Brudzinski, and Romberg signs were negative. Pelvic examination was normal for the postpartum time.

Laboratory examinations. Urinalysis: reaction, neutral; specific gravity, 1.004; albumin, trace; sugar and microscopic, negative. Blood count: RCB 4,540,000; Hg., 77 per cent or 12 grams; WBC, 4,900; differential: polymorphonuclear, 55; filamented 47, non-filamented, eight; lymphocytes, 44; monocytes, one. The Wassermann and Kahn were negative. The blood N.P.N., creatinine, sugar, sodium chloride, cholesterol, urea, uric acid, calcium, phosphorus, icteric index, carbon dioxide combining power, total and fractional proteins were all within normal limits. X-ray examination showed a normal heart and lungs and the right lobe of the liver to be enlarged, its edge being almost to the iliac crest.

Screening tests for liver dysfunction on December 28, 1949, and later complete hepatograms showed evidence of hepatocellular damage.

Agglutination tests were as follows:

	December 29	January 5	January 7	January 18
Typhoid—O	1-5,120	1-5,120	1-5,120	1-20,480
Typhoid—H	1-640	1-1,280	1-2,560	1-1,280
Para—A	1-40			
Para—B	Negative			
Brucella	1-20			

Blood cultures were positive for *Eberthella typhosa* on December 29, 1949, and January 2, 1950. All urine cultures were negative. Stool cultures were positive for *Eberthella typhosa* on December 29 and 31, 1949, but thereafter daily stool cultures remained negative.

A biopsy was taken from a typical rose spot on December 29, 1949, and culture of the tissue disclosed the presence of *Eberthella typhosa*.

The electrocardiogram with standard leads and leads CR 1, 3, and 5 taken on December 29, 1949, showed depressed S-T segments throughout with inversion of the T waves in the standard leads. This was repeated on January 10, 1950, at which time

\*Chloramphenicol.

\*\*From the Department of Medicine, University of Kansas School of Medicine, Kansas City, Kansas.

\*\*\*The authors wish to express their thanks to Dr. Ralph H. Major and Dr. Mahlon H. Delp for their help in preparing this article.



the S-T segments were still depressed but were rising to normal. It was again repeated on January 17, 1950, at which time a normal tracing was obtained.

The blood chemistry was repeated and found to be again within normal limits on January 18, 1950.

Daily complete blood counts showed a steady fall of the red blood cells from 4,540,000 to 4,330,000, and the hemoglobin from 77 per cent to 69 per cent. The white blood count varied from a high of 6,550 on January 6, 1950, to a low of 4,000 on January 16, 1950. The differential count showed its greatest shift to the right on January 13, 1950, when the polymorphonuclears were 36, all of them filamented, lymphocytes 53, eosinophiles one, and monocytes 10.

Chloromycetin (chloramphenicol) was started on January 3, 1950, three grams a day, in divided doses, being administered orally until the temperature was normal for two days and thereafter two grams daily for 10 days. Twenty-four hours after starting chloromycetin her subjective state had improved markedly and within 48 hours she felt perfectly well. Her temperature fell to normal within the first 24 hours and thereafter remained normal.

The subsequent hospitalization was uneventful. The rose spots began to fade and desquamate on January 3, 1950. The spleen could not be felt after January 18, 1950. An interesting feature was the development of painful toes so adequately described by Sir William Osler. This was accompanied by numbness and tingling of the upper extremities. These manifestations of a peripheral neuritis disappeared following therapy with the vitamin B complex. No diarrhea occurred. She retained her weight and did not suffer post-infectious asthenia. Mild abdominal distention was evident at times and a mild pruritus ani was noted on January 14, 1950.

This case demonstrates in a striking fashion the response of typhoid fever to adequate therapy with

chloromycetin. From the temperature graph it is apparent that there was a rapid fall of the temperature to normal within 24 hours after beginning therapy. In cases previously reported, the average duration of temperature was 3.2 days after chloromycetin had been begun. In this case it will be noted, however, that there is a possibility that the temperature was returning to normal regardless of therapy, for, as pointed out by Osler, in many cases defervescence occurs at the end of the second week and the temperature may fall rapidly, reaching a normal within 12 to 20 hours.

The fall of the red blood count and hemoglobin is possibly a manifestation of toxic effects of chloromycetin (chloramphenicol) on the hematopoietic system. This is due to the presence of a nitrobenzene radical in the structure of chloromycetin (chloramphenicol). This is not severe and no effect has been reported upon the white blood count. The abdominal distention and pruritus ani could be caused either by typhoid fever or a mild toxic state from the drug.

The rising titer of the Widal agglutination demonstrates the development of individual immunity, which upholds previous contentions that chloromycetin (chloramphenicol) is bacteriostatic rather than bacteriocidal. This fact explains the necessity of adequate therapy, both in amount and duration of administration of this drug. It has been found that oral administration of three grams daily, in divided doses, until the fever falls, followed by two grams daily for eight to ten days, is adequate to prevent relapse. The temperature response to chloromycetin (chloramphenicol) is more rapid than the healing of intestinal lesions. Intestinal hemorrhage

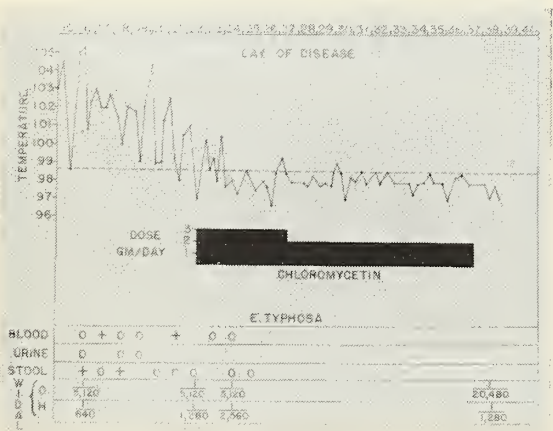


Figure 1

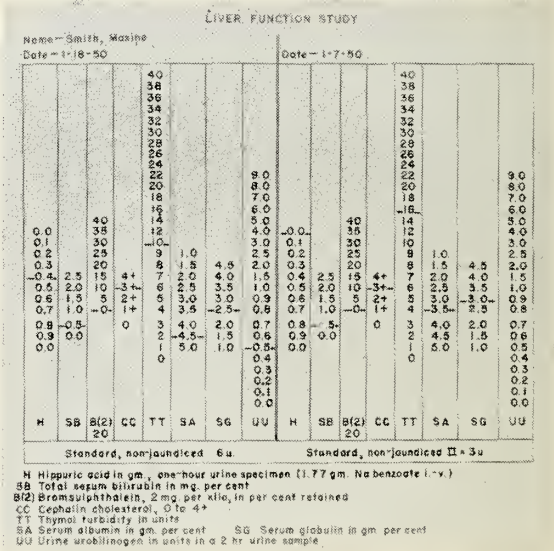


Figure 2

and perforation can occur during therapy and for the first two to three days following discontinuance of the drug. Two cases of hemorrhage and one of perforation occurring after therapy was discontinued have been reported by Army observers. All of these cases recovered, using chloromycetin (chloramphenicol) and supportive measures only.

The electrocardiogram demonstrates the typical findings of a toxic myocarditis seen in typhoid fever. Whether or not early therapy with chloromycetin (chloramphenicol) will prevent this is, at present, undetermined.

Chloromycetin (chloramphenicol) has not been found to be effective in the treatment of typhoid carriers. In the prevention of the carrier state, adequate therapy with chloromycetin (chloramphenicol) may in the future be effective unless concomitant features exist, the most important of which would be the presence of chronic cholecystitis and cholelithiasis.

### Summary

A proved case of typhoid fever treated with chloromycetin (chloramphenicol) is reported.

### Bibliography

1. Smadel, Joseph E.: Chloramphenicol (chloromycetin) in the treatment of infectious diseases. *American Journal of Medicine*; Nov., 1949, 671-683.
2. Ley, Herbert L.; Smadel, Joseph E., Crocker, T. T.: Administration of chloromycetin to normal human subjects. *Proc. Soc. Exp. Biol. and Med.*: Vol. 68, No. 1.
3. Payne, Eugene H.; Knaudt, Jose A.; Palocios, S.: Treatment of Epidemic Typhus with Chloromycetin. *J. Tropical Medicine and Hygiene*: 68-71, Vol. 51, No. 4.
4. Woodward, Theo. E.; Smadel, Joe E.; Ley, Herbert L., et al: Preliminary Report on the Beneficial Effect of Chloromycetin in the treatment of Typhoid Fever. *Ann. Int. Med.*: 131-134, Vol. 29, No. 1.
5. Pincoffs, Maurice C.; Guy, Ernest G., et al: Treatment of Rocky Mountain Spotted Fever with Chloromycetin. *Ann. Int. Med.*: 656-663, Vol. 29, No. 4.
6. Bartz, Q. P.: Isolation and Characteristics of Chloromycetin. *J. Biol. Chem.*: Vol. 172, No. 2.
7. Smadel, Joe E.; Jackson, Elizabeth B.: Effect of Chloromycetin on Experimental Infections with Psittacosis and Lymphogranuloma venereum viruses. *Proc. Soc. Exp. Biol. and Med.*: Vol. 67, No. 4.
8. Smadel, Joe E.; Woodal, Theo. E.; Ley, Herbert L.: Chloromycetin in the Treatment of Scrub Typhus. *Science*: 160-161, Vol. 108, 1948.

## THIRD ANNUAL MID-WEST CANCER CONFERENCE

JANUARY 18, 19 and 20, 1951

Broadview Hotel

Wichita, Kansas

AMONG THE GUEST SPEAKERS ARE THE FOLLOWING:

**Eldridge H. Campbell, Jr., M.D.**, Neurosurgeon, Albany, New York.

**Harold W. Dargeon, M.D.**, Consultant pediatrician, Memorial Hospital, New York City

**Howard T. Karsner, M.D.**, Medical Research Advisor, Bureau of Medicine and Surgery, United States Navy, Cleveland, Ohio

**John H. Lawrence, M.D.**, Head, Donner Laboratory, University of California, Berkeley, Calif.

**Charles L. Martin, M.D.**, Professor of Radiology, Southwestern Medical School of the University of Texas, Dallas, Texas

**Daniel G. Morton, M.D.**, Associate Professor of Obstetrics and Gynecology, University of California Medical School, Los Angeles, California.

**George T. Pack, M.D.**, Surgeon, Memorial Hospital, New York City; Clinical Professor of Surgery, New York Medical College

**Danely P. Slaughter, M.D.**, Assistant Professor of Surgery and Radiology, University of Illinois College of Medicine, Chicago, Illinois

**Everett D. Sugarbaker, M.D.**, Surgeon, Jefferson City, Missouri.

Scientific sessions Thursday afternoon, Friday morning and afternoon, and Saturday morning. Round table luncheons Friday and Saturday.

Banquet Friday evening, open to physicians and their wives.

Pathological seminar Saturday afternoon, Dr. Howard T. Karsner, Moderator.

No registration fee.

All physicians welcome.



## PRESIDENT'S PAGE

Dear Doctor:

The idea of preceptorship is not new nor is it original with the University of Kansas School of Medicine. Some institutions have had a compulsory preceptorship program for their senior students for a number of years. This was a matter of necessity caused by a lack of clinical material and was given in lieu of some of their senior work.

The program in Kansas is new this year and the work is given in addition to a full didactic and clinical course. The Kansas Medical Society's Medical Student Loan Fund has contributed a large part in the success of this program. It is money borrowed from this fund that has enabled many of the students to take advantage of preceptorship opportunity which gives them an insight into Kansas medicine at the grass roots level.

And what an opportunity it is for the doctors over our state to mingle with these embryonic medics! We have a great responsibility in this program for we are dealing with a group of young men in the most formative part of their medical life. They are idealistic in their thinking—thank goodness our school teaches ideals—but they are also most brutally critical. Our every word and decision is weighed and analyzed by them. Our conduct toward our patients and our fellow practitioners, our attitude toward our hospitals and nurses and other allied groups, our activities in staff and society meetings are noted and later discussed. We cannot be too careful in the things we do and say before these young men. They are anxious to learn the art of the practice of medicine as well as the practice itself, so let us see to it that we are very correct in every detail in helping to mold the future doctors of Kansas. Many other states and medical schools are watching our program with intense and critical interest.

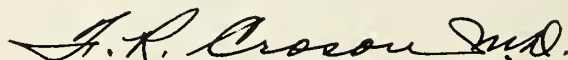
The holiday season will be upon us when you read this. Please allow me to state that Mrs. Croson joins me in wishing each and every one of you and your families

A Very Merry Christmas

and

A Happy and Prosperous 1951.

Sincerely,

A handwritten signature in cursive script that reads "J. R. Croson M.D.".

President.

## EDITORIAL COMMENT

### Merry Christmas

Merry Christmas, in the face of world disaster, becomes a hollow phrase, half-heartedly spoken. In the face of Communist mockery, with American youth dying in Korea, accompanied by the terrifying undertones of proposed atomic explosions, who has the spirit to sing "Peace on Earth"? When did this start, where will it end?

With the nations of this earth spiralling toward destruction, frozen with fear of invasion, paralyzed because of internal dissensions, groveling before economic crises, what can be set aside as hope for the future? Who remains to remember the Christmas when "good will toward men" rang out in the frosted night?

What of America this Christmas and its foreign commitments? What of America and its internal policy? That long ago confident voice in the wilderness crying for freedom to stand or fall on his own achievement—where is his counterpart today? Swept before the brash concept of statism, the individual has compromised his integrity to drift with the on-rushing tide. Today's son of the pioneer casts an uneasy glance at his heritage and stretches his palm toward federal dole. Under the shimmering guise of security, temptation has played a siren's song in his ears.

Forgotten is the stern but satisfying life of his ancestors, their elemental faith in God and their uncompromising honesty. Unlearned is their respect for mankind and unexperienced that glorious pride in the achievements of their own labor. This is being sold at beggars' prices for a mess of pottage that will be better to the taste. The grasp of conquest has replaced the friendly aid of a few short years ago; the impersonal, regimented life supersedes the ideology upon which this country was founded. Where is the merry Christmas in all that?

The land of the free is becoming revolutionized from within, production, industry, finance, agriculture, medicine bowing, one by one, to the benevolence of the welfare state. Controls are purchased through subsidies which guarantee nothing but mediocrity. Conformity has erased former brilliance but has achieved only the consolation that others are in similar straits.

How long will this continue? The opportunity is here, the time is critical, the need is extreme. Let the medical profession, by way of example, lead the way. Two short simple steps can achieve the goal. Both are easy to take, both are at hand, both can be made effective. But to succeed this must be entered into as a crusade in honesty and in truth.

The first is a return to idealism in medicine. The

science of medicine which has been migrating toward industry must either operate as a business in a cold and profit-making manner or, spurning that direction, turn back to the service of its forebearers. Two masters cannot be followed, and the choice once made must be adhered to with the fierce abandon of a crusader. Take along the new science but pick up the old ideals to become again the family counselor, defender, friend.

Impractical, yes. So is the second step. Federal aid and its temptations will be rejected in all parts of medical care. What is lost in money will be compensated for in extra hours, more work, income reduction. The people will be cared for. Every last preventive program will be continued but the doctor will do this at no cost.

Of course this is fantastic—it can never be achieved again. It is exactly as heretical as was a solitary Figure who walked this earth two thousand years ago preaching a similar philosophy on peace and good will. He spoke of Christmas in unheard of words. He brought us Christmas.

And what have we done? We have compromised this ideal. We have adulterated those seeds with avarice and today are reaping the unholy harvest. Christmas today is the Christmas of war in Korea, atheism in Russia, socialism in England, paternalism in the United States. Christmas today is a monument to man and his hatred for man, a memorial to social planning with finite minds, a most humiliating confession of our disbelief.

The two short steps to change this picture can become contagious. They could result in a dynamic reversal of present trends. They are easy to take—it is only the decision that is difficult. But of course this is a wholly incongruous flight of fancy, so—Merry Christmas—the way we made it.

### The Common Cold

Part of the difficulty in exploring rational treatments for the common cold rises in the subjective symptoms that are involved. This is especially true of head colds which are often transitory by nature and frequently become spontaneously relieved without intervention and are often mistaken by the patient who actually has vasomotor rhinitis, allergic reactions, etc. A doctor once reported that "even the most eminent men of science almost invariably lose all sense of critical judgment when colds and especially their own colds are concerned."

Many have reported experiments on the treatment of head colds with one drug or another at the same time that controls were used. Some reported favorably for antihistamines and other preparations.



However, all seem equally unsuccessful when greater care or larger numbers of patients are utilized.

A current journal reports a controlled experiment on 309 young men in military service. All reported at sick call formation and all complained of head colds. Half were treated with aureomycin orally and the other half received placebos. The number of patients reporting improvement was almost equal in both groups, 10.4 per cent in the first and 9.7 per cent of those receiving placebos.

Aureomycin was then increased in dosage, giving 500 mg. four times daily, and again the proportion of cures remained the same.

Aureomycin was selected because of its broad range of anti-microbial action. The study was carefully controlled, eliminating as many variables as possible. The study was conducted for the sake of stimulating further work in this field, but the results proved only that aureomycin had no more effect in this group of cases than would no treatment at all.

The authors report that some of the soldiers receiving placebos were so enthusiastic about their rapid recovery that they would willingly have signed testimonials regarding the effectiveness of their treatment. This is cited to call attention once more to the subjective influences involved and to the difficulty that occurs in attempting to control such studies. It also provides one further example urging caution on the part of the medical profession before accepting reports that have been based on experiments not adequately controlled. The enthusiasm of an individual patient, even the physician himself, often transcends the bounds of reality on this subject. This is not to imply any deliberate relaxation of the scientific approach but records one further piece of evidence illustrating the difficulty under which experiments with the head cold are made.

### Membership Dues

Dues for the Kansas Medical Society are collected by the secretary of each component society in addition to the local dues. For 1951 these have been set by the Council as again being \$25 per member. They become payable on January 1 and must be recorded prior to the state meeting in May if the member wishes his identification enabling him to attend the scientific program. Delinquent members are required under the Constitution to pay the amount of delinquent dues before current dues can be accepted. Members whose dues are not paid as of July 1 will be dropped from the rolls.

In 1950 the American Medical Association also assessed each member annual dues of \$25. Kansas presents the poorest record in the United States with reference to the payment of A.M.A. dues. Each

member is hereby notified that his membership in the A.M.A. will be terminated as of January 1 if his dues for 1950 have not been received. A check for \$25, payable to the A.M.A., should be mailed to the Executive Office of the Kansas Medical Society, from where it will be forwarded to Chicago. All members whose dues have not been paid should pay them at once. 1951 dues for the A.M.A. become payable on January 1. It is hoped that all members of the Kansas Medical Society will take care of this promptly, preventing the loss of delegates to the A.M.A. from this state.

A state is allotted one delegate to the A.M.A. for each 1,000 members of the A.M.A., or fraction thereof, who reside in that state. Kansas, with something over 1,600 members, has two delegates. Approximately half of the Kansas physicians have failed to pay their A.M.A. dues, which will result in the loss of one delegate in 1951 unless this situation is corrected prior to the first of the year.

### Sectional Meeting of A.C.S.

A three-day sectional meeting of the American College of Surgeons will be held in St. Louis, January 22-24, with headquarters at the Statler Hotel. The program will be presented at the hotel during the first two days and surgical clinics have been arranged for the third day at various hospitals in St. Louis.

The program will include surgical motion pictures, a special presentation on trauma, a cancer symposium, and panels or papers on vascular surgery, chest injuries, fractures about the ankle, hematuria following trauma, neck surgery, osteomyelitis, ulcerative colitis, cancer of the stomach, and surgical emergencies.

A registration fee of \$5.00 will be charged all physicians attending except fellows and members of the junior and senior candidate groups of the College, interns and residents. Hotel reservations are to be made individually.

### Course on Resuscitation

A three-day course on resuscitation of patients who die in the operating room will be presented once each month this winter under the sponsorship of the Cleveland Heart Society. Each program will include lectures by well known specialists and demonstrations on dogs and cadavers.

Dates on which the courses will begin are December 14, January 25, February 15 and March 15. Complete information may be secured from Mrs. Jerry H. Bruner, Cleveland Heart Society, 613 Public Square Building, Cleveland 13, Ohio.

There are no incurable diseases, only diseases for which no cure has been found.—*Bernard M. Baruch.*



## Constipation in the Postsurgical or Bedridden Patient

The combined effects of enforced inactivity, poor appetite and dietary restrictions frequently result in bowel sluggishness.

By adding bland "smoothage" and assuring a normal fecal consistency and volume, Metamucil gently initiates reflex peristalsis and encourages a return of normal bowel function.



**METAMUCIL<sup>®</sup>** is the highly refined mucilloid of *Plantago ovata* (50%), a seed of the psyllium group, combined with dextrose (50%) as a dispersing agent. G. D. Searle & Co., Chicago 80, Illinois.



---

## SOCIALIZED MEDICINE

---

*Editor's Note. This is the sixteenth of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.*

### Medicine in Great Britain

Ralph J. Gampell, M.D., delivers a powerful address on socialized medicine in England on the basis of his personal experience. Dr. Gampell, a British doctor, practiced under both the free and the socialized systems in Manchester, England. Unable to tolerate conditions, he left security and a guaranteed income to make his home in the United States where, at the risk of failure under a system of free enterprise, he is currently becoming a citizen and preparing to begin again the practice of medicine.

According to Dr. Gampell, the average man on the street looks at the financial side of this program as a huge success. He pays approximately \$1.00 a week for each member of his family and in return receives, at no additional cost, all medical, hospital, dental, nursing and pharmaceutical benefits. He does not realize that for each dollar he contributes the federal government adds eight. He fails to realize that in one form or another he is taxed because of the other eight dollars.

Taxes under a socialist government become overpowering. Dr. Gampell, with a wife and one child, earned an annual income of some \$6,000, from which he paid his own office expenses. Out of the remainder his personal income tax during the last year he spent in Great Britain was more than \$2,200. Taxes on such items as wool clothing reached 50 per cent so that a man's suit costing \$80 is taxed \$40, making the total cost to the purchaser \$120. Cigarettes are 80 cents a package. The heavy tax burden has succeeded in eliminating the wealthy class from Great Britain. In the entire nation, with a population of 35 million, there were last year only 68 individuals who, after paying income tax, retained an annual income of \$14,800.

The general practitioner, under the British plan, is given \$3.40 annually for each patient on his panel. In return for this \$3.40 the physician contracts to give all home calls, office visits, treatments, etc., necessary for one year's care to that individual. Dr. Gampell said, "The government told us they knew the amount of money was small but since they didn't want us to starve—I really think they do—but since they insisted they didn't want us to starve they would let us have a lot of patients."

Each general practitioner on the panel is therefore permitted to have 4,000 patients. Dr. Gampell said he had a mere 3,200, and asked his audience how one passes his time. His schedule was to have three office hours daily, one each in the morning, afternoon and evening. During each hour he almost regularly saw 20 patients, an average of one every three minutes. The practice of medicine in Great Britain consists of giving prescriptions for any and all conditions and the filling out of government forms. Last year 35 million Britishers drank 150 million bottles of medicine, but they didn't get medical care. At three minutes per patient medical care is impossible.

Besides the office hours he made as many as 35 home calls in a day, the average being something over 20. Whenever a patient becomes dissatisfied with the kind of treatment he receives, he files a complaint before the local lay panel of administration and the doctor is called to answer in his own defense. This obliterates the last vestiges of the physician-patient relationship.

Hospitals have become so overcrowded with aged patients and those suffering from chronic disabilities that necessary hospital care is almost impossible to obtain. The average waiting period for elective male surgery is 18 months; elective surgery for females requires a waiting period up to three years. Waiting periods for tonsillectomies are a year.

The problem of socialized medicine, according to Dr. Gampell, is its cost, which is disguised from the public under an elaborate pyramid of taxes, direct and indirect. These are not recognized by the people. Far greater than this is the fact that it is physically impossible for a physician to give the one thing the patient needs, medical care. The physician can give drugs and he can fill out innumerable forms, but he simply does not have the time to give medical care to sick people.

---

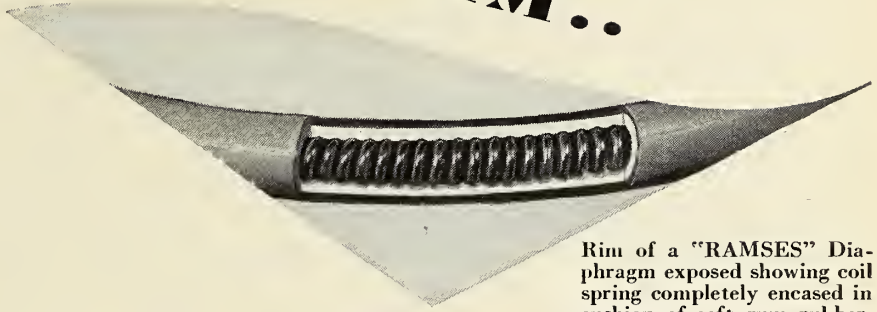
### Specialty Publication for Neurologists

A new medical journal, *Neurology*, will make its appearance in January, 1951. The publication will be issued bimonthly by the American Academy of Neurology and will include scientific information on clinical neurology, diseases of the nervous system, neuropathology, neurosurgery, neuroanatomy, neurophysiology and neuropsychiatry. Dr. Russell N. DeJong, professor and chairman of the department of neurology, University of Michigan, will serve as editor-in-chief. *Lancet Publications, Inc.*, will publish the journal.

---

What we need most is not so much to realize the ideal as to idealize the real.—*F. H. Hedge.*

## COMFORT IN A RIM..



Rim of a "RAMSES" Diaphragm exposed showing coil spring completely encased in cushion of soft gum rubber.

A coil spring with the necessary tension to hold it firmly against the vaginal walls can produce discomfort unless it is properly cushioned. Examine the rim of the "RAMSES"\* Diaphragm and you will find that the coil spring is encased in soft rubber tubing, which acts as a protective cushion. This construction is patented and available only in the "RAMSES" Flexible Cushioned Diaphragm.

## PROTECTION IN A DOME..



The "RAMSES" Flexible Cushioned Diaphragm is accepted by the Council on Physical Medicine and Rehabilitation of the American Medical Association.

A diaphragm dome must not only occlude the cervix—it must have a reasonably long life. The exclusive process used in manufacturing the dome of the "RAMSES" Diaphragm from pure gum rubber produces velvet smoothness, plus flexibility and long life.

A comparison will quickly reveal the advantages of supplying the patient with the patented "RAMSES" Flexible Cushioned Diaphragm.

"RAMSES" Diaphragms are available in sizes ranging from 50 to 95 millimeters in gradations of 5 millimeters.



*gynecological division*

*Julius Schmid, Inc.*

423 West 55th Street, New York 19, N. Y.

quality first since 1883

\*The word "RAMSES" is a registered trademark of Julius Schmid, Inc.



---

## SERVICE NOTES

---

Something under 200 Kansas physicians registered under the special Selective Service Act on October 16. Most of these will be ordered to take physical examinations prior to final reclassification. The number to be called from Kansas and the date on which calls will be issued have not been determined at the time this is written. The turn of military events and the number of physicians who volunteer for commissions will be controlling factors.

Physicians will be given an opportunity to apply for commissions at the time of taking their physical examinations. As of the present, the Navy has restricted commissions, declining those who received a portion of their medical training under A.S.T.P. V-12 trainees and those who were not trained at government expense may select the Navy. The Army will accept applications from all physicians. Applications for commissions from Kansas physicians will henceforth be processed at Fifth Army headquarters in Chicago. This will considerably accelerate this procedure.

Physicians may also apply for commissions at any time, but the normal course of events pertaining to Selective Service will continue until such time as the commission has actually been granted. To enable a doctor to take advantage of the hundred dollar bonus, the commission must have been validated prior to the receipt of induction orders through the draft board. Anyone who plans to apply for a commission should do so early.

It is presumed that a state quota will eventually be issued to Kansas for a specific number of physicians. This will also indicate numbers within each desired specialty. At the state level, the youngest available physicians for each specialty involved will be selected, and induction orders will be sent through the local board.

Within rather well defined restrictions, some physicians will be declared essential, the principal reasons being preservation of civilian medical care and in the field of teaching or research. Each county society has been requested to create a local advisory committee for the purpose of working directly with the local draft board on this subject. Wherever additional assistance is desired, the Kansas Volunteer Advisory Committee, under the chairmanship of L. R. Pyle, M.D., Topeka, will be glad to assist. Deferments, if granted, will generally be made by the local draft board and for a specific period of time. Requests for deferment will be based on unusual circumstances existing within the community itself. Personal hardship is not considered a basis for the deferment of a medical officer.

Considerable confusion exists with reference to physicians engaged in graduate education. It has been recommended that interns currently applying for reserve commissions be granted a deferment until July 1, 1951. No such arrangement appears possible for residents. At the moment the outlook is that residents may not be individually deferred as essential. A certain per cent of the present residents will be deferred for the purpose of continuing the hospital program involved. In other words, deferment will be on the basis of hospital needs without reference to the individual physician. This regulation applies equally to physicians in each of the three years of residency training.

---

### New Study of Heart Action

A new method of studying the normal and abnormal forces of the heart has been devised, and research is now being conducted at the University of Kansas School of Medicine under a program sponsored by the university and the Air Force School of Aviation Medicine at Randolph Air Force Base, San Antonio, Texas. The study is expected to continue for about a year, under the direction of Dr. E. Grey Dimond, assistant professor of medicine.

A machine called a torsion ballistocardiograph, developed since World War II at the School of Aviation Medicine, has been installed in the cardiovascular laboratory at the medical center. It is a bed supported on metal blades which can twist as the bed moves in response to the forces of blood leaving the heart with each beat.

The twist of the blades is converted into electrical impulses by piezo-electric crystals similar to those used in phonograph pickups. These electrical impulses are put into a six-channel electrocardiograph for the recording. At the same time, a photoelectric eye is recording the movement of the heart as projected by x-ray on a fluoroscopic screen. Standard electrocardiograms are simultaneously recorded, and catheters in the large arteries at the root of the heart measure the pressure directly.

Use of the new equipment is expected to give information on the heart output at high altitudes and to show whether sudden pressures on man suddenly change heart output. It is thought that the study may also throw new light on heart diseases.

Dr. Dimond is a former faculty member of the School of Aviation Medicine. He was appointed director of the cardiovascular laboratory and assistant professor of medicine at the Kansas school in 1949 and was instrumental in getting the new heart machine sent here.

---

Everything nourishes what is strong already.—  
*Jane Austen.*

*Your* **LABORATORIES**  
*Our* **RESPONSIBILITY**

CLINICAL PATHOLOGY  
PATHOLOGIC ANATOMY

**DUNCAN LABORATORIES**

*Established 1921*

909 Argyle Bldg. **KANSAS CITY 6, MO.**

230 Frisco Bldg. **JOPLIN, MISSOURI**

RALPH EMERSON DUNCAN, M.D.

In addition to diagnostic laboratory services, chemically accurate and clinically tested reagents, solutions, stains and culture media are available for immediate delivery.



## Case Reports from the University of Kansas Medical Center\*

## Tumor Conference

Edited by R. E. Stowell, M.D., and D. M. Gibson, M.D.

Cancer of the breast, together with cancer of the uterus, comprises the cause of death of almost 40 per cent of the approximately 100,000 women dying of cancer each year.<sup>1</sup> Nearly one of five women who die of cancer have mammary carcinoma. Fortunately, breast cancer is frequently eradicated when it is diagnosed early and treated adequately. The following two cases illustrate some of the problems encountered in patients with unfortunate delay in diagnosis and unsatisfactory treatment.

## Tumor Conference Case No. 50-69

**HISTORY:** E. V., a 56-year-old woman, was first seen in the Out Patient Department with the chief complaint of swelling of the left arm for three months, and numbness and aching of the left leg for three weeks. She was treated 15 months ago in Savannah, Missouri, for what was said to be a cancer of the left breast. As far as she knows there was no biopsy or pathological report. The left arm has hurt her continually since that time, and has been swollen for the past three months. She noticed a lump in the left axilla two months ago. She has had some shortness of breath on exertion, some pain over the right costal margin, and some wheezing at night for the past eight weeks. She has had no cough or hemoptysis. She feels that there is thickening and actually new growth of the scar over the breast area. In addition to the lump in the axilla, she has palpable left supraclavicular nodes. A supraclavicular node was biopsied with the thought that if it were positive the patient would be given x-ray therapy, but if it were negative, surgical treatment would be considered. The treatment at Savannah simulated a simple mastectomy with a wide scar.

Dr. Orr: What was the technic of that simple mastectomy?

Patient: They first put some kind of a fluid on my breast and left it two days until it became perfectly dead. They took scissors and clipped around that and then they applied a plaster or a poultice and left that on for seven days, and that slipped right off.

Dr. Revere: Was the treatment painful?

Patient: Well, it would have been if they hadn't kept me under some kind of hypo.

Dr. Revere: How long was it before your wound healed?

Patient: I think about three or four months before it was completely healed.

Dr. Helwig: Do you feel that the swelling is due to extension of tumor to the axilla rather than the result of scar tissue?

Dr. Revere: We think she probably has lymphedema of her arm due to neoplastic growth; the scar tissue does not extend up into the axilla.

Dr. Tice: Roentgenograms of the chest show little soft, patchy shadows, particularly in the bases of the lungs. Knowing that she has had a breast tumor, I think we have to recognize these as probably being metastatic lesions by lymphatic spread. We don't see the large round "snowball" metastases that are regarded as being so characteristic.

Dr. Boley: A section of the supraclavicular node shows metastatic adenocarcinoma.

Dr. Helwig: Does swelling in the arm, on the basis of metastasis, contraindicate surgery?

Dr. Orr: Swelling due to metastasis usually means that the malignancy is extensive in the lymph nodes with probable involvement of other structures such as veins. Although the vein can be removed, this condition usually means inoperability just as do supraclavicular metastases.

## Tumor Conference Case No. 50-68

**HISTORY:** Mrs. H. M., a 50-year-old white woman who appeared to be in perfect health, was first seen in the Out Patient Department with complaints of a tumor mass in the upper outer quadrant of the right breast. It had been present for about three months. The tumor mass was approximately two cm. in diameter and was deeply embedded in the breast substance, was fixed neither to the skin nor to the thoracic cage, and was nontender. The consistency was a little difficult to determine because of the overlying breast and subcutaneous tissue, but it was moderately firm, not stony hard. Excision biopsy was made. Grossly the excised specimen resembled a diffuse adenosis, and cut with increased consistency. The pathological report was scirrhous adenocarcinoma. The patient was then subjected to a right radical mastectomy. There was no gross evidence of axillary metastasis at that time and postoperative course has been satisfactory.

Dr. Boley: Although the biopsy specimen shows scirrhous adenocarcinoma, with growth into the ducts (Figure 1), no remaining tumor was found in the removed breast. The surgical specimen from the radical mastectomy showed that 9 out of 13 axillary lymph nodes were involved by tumor.

\*Cancer teaching activities aided by a grant from the National Cancer Institute.



**Sterilized . . .  
for  
Safety and Simplicity**

**IN  
INFANT  
FEEDING**



Heat treatment of Page Milk at more than 240° F assures complete sterility and safe keeping. Sterilization is done *after the cans have been hermetically sealed*, eliminating any possibility of subsequent contamination.

Page Milk is easy to digest. Homogenization and heating at high temperatures give it physico-chemical properties especially favorable for infants and persons sensitive to allergenic milk proteins. Page Evaporated Milk is fortified with 400 USP Units of Vitamin D.

### **The Page Program of SANITARY VIGILANCE**

Protection starts at the source — on the farm — with supervision and regular inspection of herds, equipment and milking methods. When milk is delivered, it is examined for freshness, tested for bacteria, concentrated, canned and sterilized. After sterilization, each can is mechanically checked to make sure it is still perfectly sealed. Daily sampling by our modern laboratory and periodic sampling by independent control laboratories is a final check on quality, viscosity and uniformity.

Page Milk is clean, whole milk with only water taken out and only Vitamin D added. You can recommend it with confidence.

**THE PAGE MILK COMPANY • COFFEYVILLE, KANSAS**

General Offices: Merrill, Wisconsin



Dr. Orr: In regard to the first case, I don't believe that any type of malignancy should be treated with zinc chloride paste unless it is done under the guidance of a man like Dr. Mohs<sup>2</sup> of Madison, Wisconsin, where it is done scientifically. Certainly that is generally considered a quack type of treatment which has cost the lives of many patients because of the delay in adequate therapy.

The second case is of considerable interest. The physical findings made a clinical diagnosis difficult but knowing the potentialities of some of these deeply lying tumors of the breast, we advised that the biopsy be done for examination and study. When I removed this nodule from the breast I thought it was benign until I had sectioned it, and then I was only suspicious that it might be malignant. I believe that most of us who have seen a considerable number of these carcinomas of the breast can diagnose carcinoma on section of the gross material in a majority of cases. There are two main lessons to be learned from a case like this: the first is that you cannot trust any kind of lump in the breast; you had better explore it and find out what it is. Second, even though the tumor may appear to be relatively benign, there may be extensive axillary metastases, as was found in this case. I think all breast tumors of this type should be explored. In doing this biopsy, we removed the tumor entirely, as I think should generally be done with biopsies of the breast. Then, if they are innocent you are through, and if they are malignant you've not cut through any malignant tissue, at least no malignant tissue in the primary tumor.

Dr. Helwig: Dr. Orr, how do you feel about needling cysts?

Dr. Orr: I never do it. Of course, if I were led to needle a cyst and it had bloody fluid in it, then I would certainly explore it. There are many cysts that could be needled in safety but I never like to do that because I have been surprised on a number of occasions to find a carcinoma adjacent to these cysts, and I think the safer plan is to always take them out.

Dr. Tice: There is a difference of opinion among radiologists and surgeons as to which cases of breast cancer should receive x-ray therapy. There is a growing tendency not to refer cases that have a primary breast tumor without axillary glands for radiation therapy. Pendergrass<sup>3</sup> and Kerr<sup>4</sup> are two radiologists who do not recommend postoperative x-ray therapy of primary, Stage I breast carcinomas. They consider long-term results without x-ray treatment to be as good as with x-ray treatment. If it has been decided that x-ray therapy is to be given, it must be given in a thorough radical manner. I think that an individual who has axillary metastases at operation deserves a series of x-ray treatments. Again, I find myself as years go by changing my attack. At one time I delivered my irradiation to the axilla and to the supraclavicular glands. Now, in addition to the supraclavicular glands and axilla, I cross-fire the skin and the mediastinum, avoiding the lungs as much as I can, hoping to have some effect on glands along the mammary artery and in the mediastinum. I think that there is some evidence to show that the person who has axillary glands has an increased longevity following x-ray therapy as compared to those who have not had x-ray therapy.

I think the biggest field for x-ray therapy is in the woman who has a hopeless breast tumor who is inoperable; she has perhaps a sloughing, ulcerated mass in her breast. I know that one can heal such ulcers and I think we can prolong her life and make her more comfortable by x-ray treatments. If she has bone metastasis, certainly in the vast majority of cases, we can give the patient relief from pain and in many cases show recalcification of the bone. Dr. Garland<sup>5</sup> recently reported a series of cases with bone metastasis in which 75 per cent got relief from pain and increase in calcification with x-ray therapy. With steroids the results were not quite as good. He found that the patient with bone metastasis in his series lived for an average of 12 months after x-ray treatment was given. Equivalent cases with steroids lived eight months.

The question of whether the patient should be castrated with x-ray therapy always arises if she is in the younger age group. Personally, I think the woman who is still menstruating and who has a breast carcinoma, particularly that has metastasized to the axilla, should have sterilizing x-ray to slow up the disease. Pregnancy, in my experience, has not



Figure 1. Photomicrograph of scirrhous adenocarcinoma growing in ducts and surrounding tissue. Mag. 70X.

# 50 and 3

## YEARS TREATING ALCOHOL AND DRUG ADDICTION

In 1897 Doctor B. B. Ralph developed methods of treating alcohol and narcotic addiction that, by the standards of the time, were conspicuous for success.

Twenty-five years ago experience had bettered the methods. Today with the advantages of collateral medicine, treatment is markedly further improved.

The Ralph Sanitarium provides personalized care in a quiet, homelike atmosphere. Dietetics, hydrotherapy and massage speed physical and emotional re-education. Cooperation with referring physicians. Write or phone.

*The*  
**RALPH**  
**SANITARIUM**

*Established 1897*

Ralph Emerson Duncan, M.D.  
DIRECTOR



**529 HIGHLAND AVENUE • KANSAS CITY 6, MISSOURI**

Telephone Vltor 3624



presented the serious complication described by others. I know of two cases who have gone well over the five-year period who were pregnant during the time they had a carcinoma of the breast. In fact, they were operated upon during their pregnancy and got along all right.

Dr. Hill: What about the age of the patient with regard to prognosis? It is generally accepted that the younger woman's prognosis is certainly poor as compared with that of the older woman. Is that still a clinical impression, or are good statistical observations available?

Dr. Helwig: One old concept that a woman under 30 years of age with breast cancer was hopeless at the outset may have to be modified. Taylor<sup>6</sup> presents a rather significant series of cases with fair five-year arrests in young women. I used to believe that with a woman under 30 years of age, with breast carcinoma, we might just as well make preparations for her burial. I know one woman who was 28 years old when breast carcinoma was discovered. She had no axillary metastases and has now been well for 20 years. I certainly think some of the postulates that have been laid down by Haagensen and Stout<sup>7,8</sup> need revision too. They have instituted some rather arbitrary rules as to operability; among these, for instance, is that large medullary carcinomas with edema of one-third of the overlying skin are hopeless for surgery. However, there is another report<sup>9</sup> of seven cases of advanced medullary carcinoma with extensive skin involvement that had survived several years.

Dr. Orr: I'm positively not in sympathy with sterilizing women with carcinoma of the breast. If the patient has a carcinoma of the breast, there is no assurance that she will be cured after sterilization. If the woman has carcinoma of the breast and wants to get pregnant, I think that is her privilege; she may die of carcinoma but she may have a well child.

#### References

1. Cancer Mortality for Selected Sites by Age, Sex and Race: United States, 1930-45, Vital Statistics—Special Reports 32:43-154, 1950.
2. Mohs, F. E., Chemosurgery: A Microscopically Controlled Method of Cancer Excision, Arch. Surg. 42:279, (February) 1941.
3. Pendergrass, E. P., and Kirsh, D., Role of Irradiation in Management of Carcinoma of Breast, Radiology 51:767, (December) 1948.
4. Kerr, D., Personal Communication.
5. Garland, L. H., Communication presented at International Congress of Radiology, London, (July) 1950.
6. Taylor, G. W., Carcinoma of the Breast in Young Women, New England J. Med., 215:1276-1278 (December 31) 1936.
7. Haagensen, C. D., and Stout, A. P., Carcinoma of the Breast, Ann. Surg. 118:859, 1943.
8. Haagensen, C. D., and Stout, A. P., Carcinoma of the Breast, Ann. Surg. 118:1032, 1943.
9. Moore, O. S., Jr., and Foot, F. W., Jr., The Relatively Favorable Prognosis of Medullary Carcinoma of the Breast, Cancer 2: 635-642 (July) 1949.

The work of science is to substitute facts for appearances and demonstrations for impressions.—  
*John Ruskin.*

## BLUE SHIELD

### Best Year for Blue Shield

In almost all phases of operation, the year 1950 has been the best since Kansas Blue Shield started.

For the practical minded, let's first take a look at the financial picture. On January 1 Blue Shield showed a reserve of \$89,782.34. As of October 31 the reserve had been increased to \$188,321.35. While the reserve is still considerably short of the desired level, the past trend toward skimp reserves has been turned about in the opposite direction. The addition to reserve for the first 10 months was 5.34 per cent, something less than was planned in the rate calculations for the new plan which went into effect in December, 1949.

*Enrollment Gains.* Blue Shield began the year with 182,635 members. As of October 31 the membership had been increased to 243,215, a net increase of 60,580, or over 6,000 new members per month. Enrollments in progress during November and planned for December indicate an even higher rate for the year.

*Administrative Costs Down.* One test of progress is the question as to whether or not the organization is improving in efficiency. This is partially measurable by percentage of income spent for administration. Administrative expense was 16.45 per cent of income for 1949. This percentage has been reduced to 12.13 for the ten-months period of 1950. Still another measure of efficiency is the number of employees related to total members. This is shown as follows:

	December 1949	October 1950
Number of members.....	182,635	243,215
Number of employees.....	52	57

It is noted that an additional 60,000 members are being handled with an addition of only five new employees.

*Physician Relations.* To some, particularly at this stage in the plan's development, the understanding and support of participating physicians is the real touchstone of Blue Shield progress. Here are some of the worthwhile developments in the physician relations program during 1950.

1. The state-wide Blue Shield Relations Committee consisting of a physician representative from each councilor district was made an official standing committee of the Kansas Medical Society.

2. District Blue Shield Relations Committees composed of physician representatives from county societies were set up in all of the councilor districts. Meetings were held with nine of these district committees during 1950, reaching over 80 per cent of

# AUREOMYCIN

HYDROCHLORIDE CRYSTALLINE

## in Brucellosis



The chronic ill health and mortality associated with undulant fever, caused by one of the strains of brucellae organisms, has been a serious medico-social and economic problem in this country. The treatment of these infections in man can now be satisfactorily carried out with aureomycin.

# AUREOMYCIN

Aureomycin has also been found effective for the control of the following infections: acute amebiasis, bacterial and virus-like infections of the eye, bacteroides septicemia, boutonneuse fever, gonorrhea, Gram-positive infections (including those caused by streptococci, staphylococci, and pneumococci), Gram-negative infections (including those caused by the coli-acrogenes group), granuloma inguinale, *H. influenzae* infections, *Klebsiella pneumoniae* infections, lymphogranuloma venereum, primary atypical pneumonia, psittacosis, puerperal infections, Q fever, rickettsialpox, Rocky Mountain spotted fever, surgical infections, subacute bacterial endocarditis resistant to penicillin, tick-bite fever (African), trachoma, tularemia and typhus.

**Capsules:**

Bottles of 25 and 100, 50 mg. each capsule.  
Bottles of 16 and 100, 250 mg. each capsule.

**Ophthalmic:**

Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.



the participating physicians through this form of representation.

3. Satisfactory negotiations were carried out with the Kansas Radiologic Society and the Kansas Society of Anesthesiology in regard to the inclusion of anesthesia and x-ray services for Kansans enrolled in national accounts. These negotiations gave evidence of the Blue Shield intent to secure acceptance of the profession in all matters of vital interest. It also proved the willingness of the profession to cooperate in furthering the legitimate aims of the plan.

4. The establishment of a Fee Committee by the Kansas Medical Society composed of physician representatives in each of the medical specialties and general fields of practice. This committee has scheduled its first meeting for December 3, 1950, and will undertake the difficult assignment of establishing relative values to various procedures and services. It will not be the purpose of this committee to determine Blue Shield payments but to establish the relationship of procedure values on which Blue Shield payments may be based.

5. The publication of a monthly report carrying special information for doctors and general information on the operations of both Blue Cross and Blue Shield. This report is called This Month and is sent to all participating physicians.

6. The increased cooperation of participating physicians in community enrollment planning and by assistance in the enrollment effort in the form of endorsement advertising and making available information to patients.

7. The increased participation by doctors' wives in the actual organization of community enrollment.

8. Increase in the number of meetings with county societies and hospital staffs for round-table discussions of Blue Shield problems and objectives. Such meetings have been arranged in all parts of the state.

The year 1950 has been a year primarily devoted to organizing the physician relations program so that still further gains may be made in the future. Plans for 1951 call for continued meetings with the district Blue Shield Relations Committees and county societies in the interest of learning what the medical profession wants to do in the way of future improvements in the Blue Shield contract. With the base of operations already established there is every reason to believe that participating physicians will show the necessary interest to let the Blue Shield board know what the profession wants done.

Delegates representing student bodies in medical schools of the United States will meet in Chicago, December 28 and 29, to draft a constitution for the Student American Medical Association. The

organization is to be a national association of medical students and is to be affiliated with the American Medical Association. Plans for the formation of the group were approved by the House of Delegates of the A.M.A. at its 1950 meeting in San Francisco.

## DEATH NOTICES

**WILHELM EDWARD REGIER, M.D.**

Dr. W. E. Regier, 67, who had practiced in Whitewater for 37 years, died at his home there October 24. He was graduated from the University Medical College in Kansas City in 1907, and practiced first at Elbing for two years and then at Harper for three years before opening his office in Whitewater. Dr. Regier was an honorary member of the Butler County Society.

\* \* \*

**JAMES GEORGE CONLEY, M.D.**

Dr. J. G. Conley, 63, an active member of the Crawford County Society, died October 28 at his home in Pittsburg. He had discontinued his practice 15 months ago because of poor health. After his graduation from Marquette University School of Medicine, Milwaukee, in 1915, Dr. Conley served in World War I, returning to Kansas in 1919 to open an office in Pittsburg, where he continued to practice until his retirement.

\* \* \*

**CHESTER ORVILLE SHEPARD, M.D.**

Dr. C. O. Shepard, 62, who had practiced in Independence for the past 36 years, died at his home there November 8. He received his medical education at the University of Illinois, graduating in 1912, and practiced first in Kansas City, leaving there in 1914 to open an office in Independence. He was an active member of the Montgomery County Medical Society and had been serving as county coroner since 1942.

\* \* \*

**HERBERT RANGLES, M.D.**

Dr. Herbert Randles, 81, an active member of the Bourbon County Society, died November 24 at his home in Fort Scott. He was graduated from the College of Physicians and Surgeons in Kansas City in 1900, and for a short time was in the drug business in Kansas City with his father. He later returned to medical school and was graduated from Jefferson Medical College in 1907. He began his practice in White City and moved to Fort Scott in 1941. His son, Dr. Leland P. Randles, continues to practice in Fort Scott.

# Cortone<sup>®</sup>

## NOW AVAILABLE

*for your daily practice*

## WITHOUT RESTRICTION

CORTONE\* (Cortisone) is now available, through your usual source of medicinal supplies, without restriction. Pharmacists are prepared to fill your prescriptions for use of this remarkable hormonal substance in your daily practice. Hospitalization of individual patients is at the discretion of the physician.

*Key to a New Era in Medical Science*

# Cortone<sup>®</sup>

ACETATE

(CORTISONE Acetate Merck)

(11-Dehydro-17-hydroxycorticosterone-21-acetate)



**MERCK & CO., INC.**

*Manufacturing Chemists*

RAHWAY, NEW JERSEY

*\*CORTONE is the registered trade-mark of Merck & Co., Inc. for its brand of cortisone.*



---

## ACTIVITIES OF MEMBERS

---

Dr. H. R. Landmann, former member of the senior staff at Winter VA Hospital, Topeka, has gone to Santa Fe, New Mexico, to engage in private practice and to serve as consultant in medicine to the Los Alamos Medical Center.

\* \* \*

Four Kansans became fellows of the American College of Surgeons at its recent annual meeting, Dr. Edward S. Brinton and Dr. Leo K. Crumpacker of Wichita, Dr. Hubert M. Floersch, Kansas City, and Dr. George S. Hopkins, Topeka.

\* \* \*

Dr. and Mrs. J. G. Lee, Bonner Springs, celebrated their golden wedding and the 59th anniversary of the physician's medical practice at an open house at their home on October 15.

\* \* \*

Dr. C. J. Kurth, Wichita, delivered a paper at the semi-annual meeting of the Missouri Academy of Neurology and Psychiatry at St. Louis, October 11.

\* \* \*

Dr. Clyde O. Merideth, Jr., Emporia, was principal speaker at a P.T.A. meeting in Marion, October 23. His subject was "Stop Annoying Your Children."

\* \* \*

Dr. H. O. Bullock, Independence, was principal speaker at a meeting of the Women's Society of Christian Service at Coffeyville, November 1. He discussed public health measures and needs in the county.

\* \* \*

Dr. S. A. Scimeca, who formerly practiced in Caney and more recently has been in Scott City, has returned to Caney and has opened an office there.

\* \* \*

Dr. D. B. Foster, Topeka, spoke on "A New Commitment Law" before the Kansas Mental Hygiene Society at its annual meeting in Wichita November 17.

\* \* \*

Dr. Karl E. Voldeng, Wellington, took part in a program on modern medicine at a meeting of the American Association of University Women at Wellington, November 1. He discussed cancer research.

\* \* \*

Dr. Mary Glassen, Phillipsburg, was named "Woman of the Week" on a radio program of the National Broadcasting Company, November 1. The program, as a part of the "Portia Faces Life" feature, told the story of Dr. Glassen's life.

"Open Mind in the Changing World" was the subject of a talk presented by Dr. Thomas L. Foster, Halstead, at a meeting of the P.T.A. in Bluff City last month.

\* \* \*

Dr. Thomas R. Hood, Topeka, took part in a program on "Health in a Rural Community" in Highland Park, November 15. He described the work of the Shawnee County Health Department.

\* \* \*

Dr. F. C. Beelman, Topeka, served as a member of the executive committee and of the civil defense committee of the Conference of State and Territorial Health Officers in Washington late in October. Two other members of the Kansas State Board of Health, Dr. R. T. Nichols of Hiawatha and Dr. F. L. Loveland of Topeka, also attended.

\* \* \*

Dr. O. C. McCandless, Marion, addressed the women of the First Methodist Church, Newton, at a meeting held last month. He spoke on rural health.

\* \* \*

Dr. C. M. Fitzpatrick, Salina, has accepted appointment as health officer for Saline County, filling the vacancy created by the resignation of Dr. L. S. Nelson, Jr.

\* \* \*

Dr. W. G. Rinehart, Pittsburg, was named coroner of Crawford County at last month's election.

\* \* \*

Dr. Louis S. Morgan, Wichita, addressed the October meeting of the Modern Mothers' Study Club at Arkansas City. He discussed child psychiatry and told of the work being done at the Child Guidance Center.

\* \* \*

Dr. Lynn D. Chaffee, who has been associated in practice with his brother, Dr. Dean Chaffee, in Abilene, announced recently that he will move to Boston, Massachusetts.

\* \* \*

Dr. Lyle F. Schmaus, Iola, spoke on "The Golden Age of Medicine" at a meeting of the Iola Lions Club November 14.

\* \* \*

Dr. W. W. Weltmer, Beloit, was elected coronor of Mitchell County in the November 7 general elections.

---

There are many political philosophies today; there are many schemes for the regeneration of society. None can accomplish the goal that all seek—peace in this world—unless there is recognition of the fundamental principles of the love of justice and freedom, the sanctity of the inalienable rights of all—*J. Howard McGrath*.

# PHOSPHO-SODA (FLEET)<sup>®</sup>

A LAXATIVE FOR *judicious* THERAPY



*Because* of its

## Broad Clinical Acceptance

Phospho-Soda (Fleet)'s\* wide acceptance by physicians everywhere is a tribute to its prompt, gentle laxative action—thorough, but free from disturbing side effects. Leading modern clinicians attest its safety and dependability as a pre-eminent saline eliminant for judicious relief of constipation. Liberal office samples on request.

\*Phaspha-Soda (Fleet) is a solution containing in each 100 cc. sodium biphosphate 48 Gm. and sodium phosphate 18 Gm. Both 'Phaspha-Soda' and 'Fleet' are registered trade marks of C. B. Fleet Company, Inc.

**C. B. FLEET CO., INC. • LYNCHBURG, VIRGINIA**



---

## COUNTY SOCIETIES

---

Officers for 1951 were elected by the Finney County Society at a meeting held at St. Catherine's Hospital, Garden City, in September. Those chosen are: president, Dr. H. B. Palmer, Scott City; vice president, Dr. J. O. Austin, Garden City; secretary-treasurer, Dr. J. W. Turner, Garden City.

\* \* \*

A meeting of the Montgomery County Society was held at Memorial Hospital, Coffeyville, November 8. Dr. John F. Coyle, Coffeyville, spoke on medical legislation. The following officers were named for 1951: president, Dr. E. L. Robinson, Independence; vice president, Dr. William T. Read, Coffeyville; secretary, Dr. J. L. Hoopingarner, Cherryvale; treasurer, Dr. G. C. Bates, Independence.

\* \* \*

Dr. and Mrs. D. M. Stevens, Oskaloosa, entertained members of the Jefferson County Medical Society and Auxiliary at their home October 13. A film on cancer was shown.

\* \* \*

A joint meeting of the Wilson County Medical Society and Auxiliary was held at Fredonia November 8. After a dinner, the groups separated for business sessions. The society elected their officers for 1951 as follows: president, Dr. J. W. McGuire, Neodesha; vice president, Dr. D. C. Smith, Fredonia; secretary, Dr. Charles E. Stevenson, Neodesha.

\* \* \*

The Labette County Society met recently at the VFW dining room in Parsons and Dr. Guy Cramer, retiring president, was host at a dinner. Dr. Mahlon H. Delp, of the University of Kansas Medical Center, presented a paper on the use of ACTH. At the business session Dr. Charles Henderson was elected president for 1951, Dr. John P. White was named vice president, and Dr. Thomas Perdue was chosen secretary-treasurer.

\* \* \*

A meeting of the Leavenworth county society was held November 13. At the business session the group endorsed the Blue Cross-Blue Shield enrollment campaign conducted in Leavenworth November 17-27.

---

## BOOK REVIEWS

---

*Principles of General Psychopathology.* By Siegfried Fischer, M.D. Published by Philosophical Library, New York. 327 pages. Price \$4.75.

The emphasis in this book is upon descriptive psychopathology and this emphasis is maintained even in the parts dealing with comprehensible and

causal connections and clinical syndromes. As a book on descriptive psychopathology it is excellent. Descriptive psychopathology has its usefulness, but also has its limitations. It is based on the concept that as well as studying the integrations of the total personality, human behavior can be understood by classifying it into its various component parts and then subclassifying and defining these. A detailed understanding of descriptive terms is certainly helpful in making case study material comprehensible and comparable. However, such an approach leads to a burdensome amount of terminology, such classifications are often arbitrary, and such subdivision may lead to a semantic bar to the understanding of the totality of human behavior rather than an aid to it. Besides, when one is dealing with abstractions one rarely can hope to reach agreement in definitions. Dr. Fischer himself says, "Every scientist is free to designate things to his own liking as long as he does not produce ambiguities."

The above comments, of course, pertain to the subject matter chosen in general and not to this book in particular. Dr. Fischer has presented his material in a concise, well organized, readable form. His presentation is accurate and reasonably complete. One might regret the author's failure to include a discussion of tropisms, reflexes, and conditioning. The clinical observations of Sullivan are also neglected. Bibliography is scanty.

It is not felt that this type book is necessary for the undergraduate student or for the practitioner in fields other than psychiatry. It is recommended to psychiatrists and psychologists, particularly those engaged in research or desiring a review of the subject.—M.T.E.

\* \* \*

*Psychology, Principles and Applications.* By Marian East Madigan. Published by C. V. Mosby Company, St. Louis. 403 pages, 60 figures. Price \$4.25.

This book is an attempt to present the fundamental principles of psychology in a non-academic fashion and to give the reader an appreciation of psychology's usefulness in everyday living. It is intended as a text for student nurses. The author forgets to state specifically for whom the book was written, but upon reading it one finds the material addressed to the beginning student nurse.

In regard to the positive qualities of the text one can mention the author's care to select illustrative material from life experiences familiar and meaningful to the student nurse, and also the author's wholistic approach to psychology, especially as shown in her attempt to point out to the nurse the psychological factors present in the behavior of physically ill people, thus emphasizing the need to be respon-


 Wyeth®

#### NO FORTIFICATION NEEDED

The vitamin content of S-M-A is well in excess of the requirements of the normal infant, and is more constant than the vitamin content of breast milk.

## *A Complete, Protective Infant Food . . .*

**S-M-A**, diluted and ready to feed, provides in each quart the following proportions of the minimum daily requirements for infants.

VITAMIN A 5,000 U.S.P. units	333%
VITAMIN D 800 U.S.P. units	200%
THIAMINE 0.67 mg.	250%
RIBOFLAVIN 1 mg.	200%
VITAMIN C 50 mg.	500%
NIACINAMIDE 5 mg.	—

Ready-to-feed S-M-A is the most complete formula for infants. Its protective vitamins are administered in the most satisfactory way—right in the food and in each feeding. No danger of forgetting, no extra burden for busy mothers.

No infant food is more like breast milk than S-M-A—in content of protein, fat, carbohydrates and ash, in chemical constants of the fat and in physical properties.

**S-M-A CONCENTRATED LIQUID**—cans of 13 fl. oz.

**S-M-A POWDER**—1 lb. cans



**S-M-A**®  
*vitamin C added*  
*builds husky babies*

Wyeth Incorporated, Philadelphia 3, Pa.



sive to the total person rather than merely to limited aspects of the patient.

However, on the whole, the text is poorly written. Many basic principles and important concepts of psychology are not given sufficient clarity nor precision of definition, but rather are treated very briefly, superficially, and at times inaccurately. The superficiality may stem in part from the author's unskilled manner of avoiding an academic attitude. The overall arrangement of the material is not economically nor strategically planned and the discussion is lacking in integration. The author's style of writing has a disjointed character caused, it seems, by the absence of needed transitional and explanatory statements between thoughts.

This book does not stand up well as an introductory text on the principles of psychology and their applications. Several far superior texts are on the market for student nurses or others seeking knowledge in the field of general psychology.—H.L.M.

\* \* \*

*Atlas of Human Anatomy.* By Barry J. Anson. Published by W. B. Saunders Company, Philadelphia. 518 pages, 1301 illustrations, 93 in color. Price \$11.50.

The author's admirable plan to produce a volume serving the physician from his student days in the dissecting laboratory through his years as a practitioner has been well carried out. A minimum of detailed text is employed. The plates have been prepared from drawings of dissections with preservation of detail. This is in marked contrast to the illustrations in many atlases and textbooks of anatomy which are so distinctly semi-diagrammatic.

Probably the most outstanding feature of this new atlas is the graphic presentation of variable morphologic features. This aspect of the publication is probably of more interest to the advanced student and practitioner than the beginning medical student who does not appreciate the clinical significance of anomalies.

Anson's Atlas of Human Anatomy is a valuable adjunct to anatomical literature, if it is recognized that the field cannot be completely covered by one text book or one atlas.—R.M.B.

## ABSTRACTS FROM CURRENT LITERATURE

### Death of Cesarean Infants

*Death of Cesarean Infants: A Theory as to its Cause and a Method of Prevention.* By Daniel B. Landau et al. *Jnl. Ped.*, 36:4, 421-426, Apr. 1950.

Bloxson has stated that a test of labor decreases the incidence of post-section asphyxia by 25 per cent and that failure to condition the infant by uterine contractions or passage through the birth canal is responsible for many cases of asphyxia.

The authors are particularly concerned with the Cesarean infants which leave the surgery in good condition, then two to four hours later develop cyanosis, respiratory distress with dyspnea, air hunger and costal retraction and weak pulse. These infants fade rapidly and die in terminal convulsions in about 18 to 20 hours. Incubators, oxygen and stimulation do not seem to change the picture. They consider this symptomatology quite similar to shock resulting from hemorrhage in adults.

Potter describes a similar clinical syndrome and Clifford (Boston) believes it due to increased intracranial pressure as the result of anoxia, particularly associated with the maternal hemorrhage of placenta previa.

Gellis, White, and Pfeiffer believe that these infants have a more favorable course when treated by gastric suction as this procedure may avoid some aspiration and pneumonia.

Potter and Adair report a mortality rate of 8.7 per cent in a series of 1462 sections.

The authors present the hypothesis that the infant blood loss by immediate clamping of the cord,

## OVER 31 YEARS OF EXPERIENCE

COLLECTING DORMANT ACCOUNTS FOR HOSPITALS AND PHYSICIANS

## ALL FUNDS PAID DIRECT TO OUR CLIENT

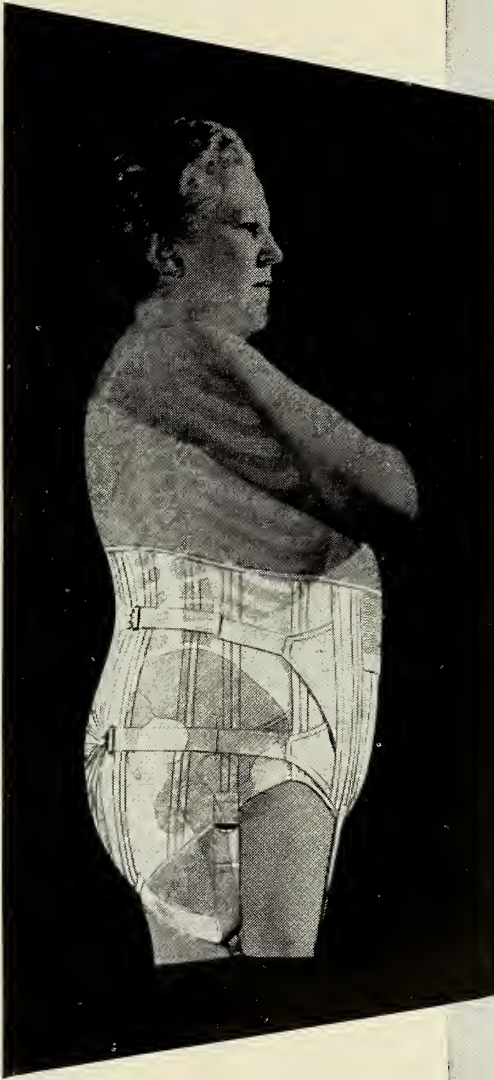
We prepare and keep all the records—furnish the supplies—do all detail work—pay part of routine postage. The plan is successful and altogether different from any other. Efficient organization and field men.

READING & SMITH SERVICE BUREAU

1004 Commerce Trust Bldg.

Kansas City, 6, Mo.

# WHEN OBESITY IS A PROBLEM



Clinicians have long noted that the forward bulk of the heavy abdomen with its fat-laden wall moves the center of gravity forward. As the patient tries to balance the load, the lumbar and cervical curves of the spine are increased, the head is carried forward and the shoulders become rounded. Often there is associated visceroptosis. Camp Supports have a long history among clinicians for their efficacy in supporting the pendulous abdomen. The highly specialized designs and the unique Camp system of controlled adjustment help steady the pelvis and hold the viscera upward and backward. There is no constriction of the abdomen, and effective support is given to the spine. Physicians may rely on the Camp-trained fitter for precise execution of all instructions.

If you do not have a copy of the Camp "Reference Book for Physicians and Surgeons", it will be sent on request.

**S. H. CAMP and COMPANY**  
JACKSON, MICHIGAN

*World's Largest Manufacturers  
of Scientific Supports*

Offices in New York • Chicago  
Windsor, Ontario • London, England



THIS EMBLEM is displayed only by reliable merchants in your community. Camp Scientific Supports are never sold by door-to-door canvassers. Prices are based on intrinsic value. Regular technical and ethical training of Camp fitters insures precise and conscientious attention to your recommendations.



which is routine in Cesarean births, may be responsible for the delayed death syndrome.

They have an assistant care for the infant. After delivery he holds the infant's head down and the pharynx is aspirated, the cord is neither clamped nor severed. The placenta is separated from the uterus and wrapped in a large turkish towel. Several clamps are used to secure the placenta as it tends to slip out of the towel. The infant and the wrapped placenta connected by the intact umbilical cord are carried to an awaiting table. The placenta is suspended from a standard by means of clamp attached to the towel. The infant is kept warm. The cord is not clamped until its blood vessels have collapsed, this occurring in six to 10 minutes.

The average difference in weight of the placenta before and after suspension was 45 grams. The average amount of blood saved for the infant was 90 cc. This represents a considerable amount as the blood volume of the newborn infant is approximately 10 per cent of its body weight.

In 87 section infants done since instituting this technique of placental suspension and drainage they have had no instances of this delayed death syndrome.

These infants seem more active, more ruddy in color and have fewer neonatal upsets.

The authors feel that this syndrome is quite sim-

ilar to hemorrhagic shock in adults and their new technique may be a prophylactic procedure.—*D.R.D.*

\* \* \*

Attend the Cancer Conference in Wichita, January 18-20, 1951.

#### CLASSIFIED ADVERTISEMENTS

**FOR SALE**—Cambridge Simplitrol EKG used less than one year, all accessories. Spencer monocular microscope. Best offer. Write the Journal 34-50.

**FOR SALE**—A good general practice near Oklahoma City. Will sell my home and adjacent office. Very reasonable; terms. Write the Journal 35-50.

### RADIUM & RADIUM D & E

(including Radium Applicators)

**FOR ALL MEDICAL PURPOSES**

Est. 1919

**Quincy X-Ray & Radium Laboratories**

(Owned and Directed by a Physician-  
Radiologist)

**Harold Swanberg, B.S., M.D., Director**  
W.C.U. Bldg. Quincy, Illinois

## ANNUAL CLINICAL CONFERENCE CHICAGO MEDICAL SOCIETY

March 6, 7, 8, 9, 1951 — — — — — Palmer House, Chicago

A Conference planned to keep physicians abreast of the new things which are developed from year to year.

Special feature of the 1951 Conference—**DAILY TEACHING DEMONSTRATION PERIODS** from 11:00 to 12:00 noon and 1:30 to 3:00 P.M. Demonstrations will cover:

Amputations and Prostheses  
Patients Treated with ACTH and Cortisone  
Dermatologic Clinic  
Organization of a Blood Bank  
Neurological Clinic  
Sterility Tests  
Speech Without Larynx

Proper Application of Casts and Splints in Fractures  
Local Anesthesia  
Fluid and Electrolytic Balance in Surgery  
Use and Misuse of Obstetrical Forceps  
Common Problems in X-ray Interpretations  
Laboratory Tests (Diabetes, Proper use of Insulin, Prothrombin Tests)

Thirty-four outstanding teachers and speakers will present half-hour lectures on subjects of interest to both general practitioner and specialist.

#### FOUR PANELS ON TIMELY TOPICS.

Scientific exhibits worthy of real study and helpful and time-saving technical exhibits. The **CHICAGO MEDICAL SOCIETY ANNUAL CLINICAL CONFERENCE** should be a **MUST** on the calendar of every physician. Plan now to attend and make your reservation at the Palmer House.













v. 51

1950

37009

KANSAS

MEDICAL

SOCIETY

JOURNAL

v.51	1950	37009
Kansas medical society journal		
DATE	ISSUED TO	

Return this book on or before the last  
date stamped below

OCT 4 1952



